



Document Title:

Three Phase Recloser - IntelliRupter Accessories

Document Type:

Specification

Engineering Type

Equipment Specification

Document No.:

4350.352

Department

Distribution

Version:

01

Effective Date:

Mar 21, 2025

Shared document with: N/A

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| Document Title:

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N/A

Related/Referenced Documents

N/A

Version History

Version	Date	Revision Comments
01	March 21, 2025	Initial release



Item Version History

Warehouse Catalog #	Asset Suite #	Version	Date
032-87237	87237	01	03/21/2025
032-87238	87238	01	03/21/2025
032-87239	87239	01	03/21/2025
032-82645	82645	01	03/21/2025



1. Introduction

This is a general specification that covers the minimum requirements for the Three Phase Recloser - IntelliRupter Accessories 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 these accessories.

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 may 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 on page 8. 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 to the 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

- 6.1. 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.
- 6.2. A list of all parts included in the container and/or package must be provided at the time of delivery so that the receiving personnel can verify that everything requested is present, avoiding any delay in the receiving process.

7. Number Per Package (Logistics)

Standard Package: One (1) unit per box or as requested by LUMA.

8. Acceptance Criteria

Products shall be manufactured in accordance with the latest applicable codes, standards, and other regulations.

9. Description

- 9.1. The IntelliRupter Accessories are components compatible with the “Three-Phase Solid Dielectric Vacuum Recloser with Loop Restoration & Pulse Closing Capabilities” (refer to Specification Doc. No. 4350.003). The accessories include an External Power Supply (EPS), a Control Module, a Communication Module and a Docking Station. These components will be explained in more detail below.
- 9.2. External Power Supply (EPS):



- a. The recloser can be powered from the distribution line through integral power modules or an External Power Supply (EPS). The EPS enables use of preferred and alternate control power sources and can be installed in combination with the integral power modules. The EPS shall feature AC and DC inputs, allowing it to be powered from a pole top transformer or substation battery.
- b. The EPS shall be suitable to be mounted onto the base of the S&C IntelliRupter PulseCloser Fault Interrupter and equivalent in terms of dimensions, connections and overall structure to S&C model SDA-4910-S102.
- c. The EPS enclosure shall be made of stainless steel.

9.3. Control Module:



- a. The control module shall provide point-on-wave closing to minimize asymmetric fault current and inrush current. It shall feature a complete set of protection and control functions, including simultaneous independent directional phase ground, negative-sequence, sensitive-earth time-overcurrent, instantaneous-overcurrent, and definite-time elements.
- b. The control module shall provide directional blocking of overcurrent elements, over/under voltage elements, over/under frequency elements, phase unbalance detection, synchronization check, cold-load pickup modifier, and comprehensive diagnostics, including data and waveform capture.
- c. The control module shall also include sophisticated remote terminal unit functionality, including remote reporting of the recloser status points and operations, as well as current, voltage, watts, and vars.
- d. The control module shall be designed to fit onto the base of the S&C IntelliRupter PulseCloser Fault Interrupter and be akin to S&C model SDA-4540R3 in terms of dimensions and overall features.

9.4. Communication Module:

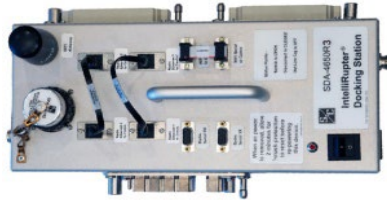


- a. The communication module shall be able to link, via a Wi-Fi connection, with a user laptop computer within range. The system shall be able to be configured and interrogated remotely using a desktop computer over a communication system using DNP 3.0 Protocol and shall be compatible with software "IntelliLink".
- b. The module shall also provide 1-ms accurate timestamping of events to speed post-event analysis as well as recloser location data to help maintain the user's graphical information system.
- c. The communication module shall feature a compartment designed to accommodate a 12 V battery pack, ensuring compatibility with S&C model SDA-4605. The battery pack shall support operation for a minimum of four hours after loss of ac line voltage

on both sides of the recloser, permitting extended dead-line switching and SCADA communication.

- d. The communication module shall be designed to integrate seamlessly with the control module on the base of the S&C IntelliRupter PulseCloser Fault Interrupter. It shall match the overall features and dimensions of S&C model SDA-4554R3-E-332.

9.5. Docking Station:



- a. The docking station shall include a direct serial connection for the control module in the event that a Wi-Fi connection cannot be established with the recloser. This configuration will supply power to the control module and facilitate the uploading and downloading of configuration settings via a dedicated base memory module.
- b. The docking station shall also support the communication module when it is detached from the recloser and installed alongside the control module. With this setup the control module would be able to supply power to the communication module, allowing for radio programming, operation verification, and battery charging of the communication module.
- c. The docking station shall include a Wi-Fi radio antenna, and connectors shall be provided for a user-furnished SCADA radio antenna and Global Positioning System (GPS) receiver antenna.
- d. The docking station shall allow the monitoring of serial communication traffic between the control and communication modules using the Wi-Fi connection to the computer or a direct connection to a serial-port-equipped computer.
- e. The docking station must be compatible with the S&C IntelliRupter PulseCloser Fault Interrupter and should be equivalent to the S&C model SDA-4650R3 in terms of connections, dimensions, and features.

10. Inspection

- 10.1. Upon inspection of incoming equipment/material, the purchaser reserves the right to refuse product shipments and to determine the acceptability or rejection of the product received. The supplier shall be liable for all costs incurred for a product that is rejected.
- 10.2. 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	Warehouse Catalog #	Asset Suite #	Compatible Manufacturer & Model
External Power Supply (EPS)	032-87237	87237	S&C SDA-4910-S102
Control Module	032-87238	87238	S&C SDA-4540R3
Communication Module	032-87239	87239	S&C SDA-4554R3-E-332
Docking Station	032-82645	82645	S&C SDA-4650R3

— End of Specification —



Appendix



Appendix 1: Table of Compliance

Criteria/Description		Pass/Fail	Comments
EPS (External Power Supply) [032-87237]	Shall feature AC and DC inputs, allowing it to be powered from a pole top transformer or substation battery		
	Shall be suitable to be mounted onto the base of an S&C IntelliRupter PulseCloser Fault Interrupter and comparable in terms of dimensions, connections and overall structure to S&C model SDA-4910-S102		
	The enclosure shall be made of stainless steel		
Control Module [032-87238]	Shall provide point-on-wave closing to minimize asymmetric fault current and inrush current		
	Shall feature a complete set of protection and control functions, including simultaneous independent directional phase ground, negative-sequence, sensitive-earth time-overcurrent, instantaneous-overcurrent, and definite-time elements		
	Shall provide directional blocking of overcurrent elements, over/under voltage elements, over/under frequency elements, phase unbalance detection, synchronization check, cold-load pickup modifier, and comprehensive diagnostics, including data and waveform capture		
	Shall include sophisticated remote terminal unit functionality, including remote reporting of the recloser status points and operations, as well as current, voltage, watts, and vars		
	Shall be designed to fit onto the base of the S&C IntelliRupter PulseCloser Fault Interrupter and be akin to S&C model SDA-4540R3 in terms of dimensions and overall features		
Conclusion	Complies with the Specification (Doc. No. 4350.352)		

NOTE: This table is only a checklist for reference. The compliance shall be with the complete document. Filling out the table with "PASS" won't be accepted as compliance without the technical information required to certify it.



Appendix 1: Table of Compliance (Cont.)

Criteria/Description		Pass/Fail	Comments
Communication Module [032-87239]	The communication module shall be able to link, via a Wi-Fi connection, with a user laptop computer within range		
	The system shall be able to be configured and interrogated remotely using a desktop computer over a communication system using DNP 3.0 Protocol and shall be compatible with software "IntelliLink"		
	Shall provide 1-ms accurate timestamping of events to speed post-event analysis as well as recloser location data to help maintain the user's graphical information system		
	Shall feature a compartment designed to accommodate a 12 V battery pack, ensuring compatibility with S&C model SDA-4605		
	Shall be designed to integrate seamlessly with the control module on the base of the S&C IntelliRupter PulseCloser Fault Interrupter. It shall match the overall features and dimensions of S&C model SDA-4554R3-E-332		
Docking Station [032-82645]	Shall include a direct serial connection for the control module if a Wi-Fi connection cannot be established with the recloser to supply power to the control module and facilitate the uploading and downloading of configuration settings via a dedicated base memory module		
	Shall also support the communication module when it is detached from the recloser and installed alongside the control module to supply power to the communication module, allowing for radio programming, operation verification, and battery charging of the communication module		
	Shall include a Wi-Fi radio antenna and connectors shall be provided for a user-furnished SCADA radio antenna and Global Positioning System (GPS) receiver antenna		
	Shall allow the monitoring of serial communication traffic between the control and communication modules using the Wi-Fi connection to the computer or a direct connection to a serial-port-equipped computer		
	Must be compatible with the S&C IntelliRupter PulseCloser Fault Interrupter and should closely resemble the S&C model SDA-4650R3 in terms of connections, dimensions, and features		
Conclusion	Complies with the Specification (Doc. No. 4350.352)		

NOTE: This table is only a checklist for reference. The compliance shall be with the complete document. Filling out the table with "PASS" won't be accepted as compliance without the technical information required to certify it.











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Final Audit Report

2025-03-21

Created:	2025-03-21
By:	Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
Status:	Signed
Transaction ID:	CBJCHBCAABAAJdMp9MKJRyF7-aonTc_r_S5gdZJhGv-

"4350.352 Three Phase Recloser - IntelliRupter Accessories" History

-  Document created by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
2025-03-21 - 12:22:53 PM GMT
-  Document emailed to Alexander Moraza (Alexander.MorazaRamo@Lumapr.com) for signature
2025-03-21 - 12:22:58 PM GMT
-  Email viewed by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
2025-03-21 - 12:23:12 PM GMT
-  Document e-signed by Alexander Moraza (Alexander.MorazaRamo@Lumapr.com)
Signature Date: 2025-03-21 - 12:23:28 PM GMT - Time Source: server
-  Document emailed to Rodolfo Flores (rodolfo.floresortiz@lumapr.com) for signature
2025-03-21 - 12:23:29 PM GMT
-  Email viewed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
2025-03-21 - 12:29:41 PM GMT
-  Document e-signed by Rodolfo Flores (rodolfo.floresortiz@lumapr.com)
Signature Date: 2025-03-21 - 12:30:37 PM GMT - Time Source: server
-  Document emailed to Ricardo Castro (ricardo.castro@lumapr.com) for signature
2025-03-21 - 12:30:39 PM GMT
-  Email viewed by Ricardo Castro (ricardo.castro@lumapr.com)
2025-03-21 - 1:14:07 PM GMT
-  Document e-signed by Ricardo Castro (ricardo.castro@lumapr.com)
Signature Date: 2025-03-21 - 1:28:35 PM GMT - Time Source: server

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2025-03-21 - 1:28:35 PM GMT