

MACLEAN-SEL Motorized Switch Operator

Electrical Utilities are evaluating distribution automation as a part of their intelligent grid implementation. However, the prospect of getting these systems up and running can be overwhelming without a proven set of products and the engineering knowhow for successful implementation.

Serving the SCADA needs of the industry for more than 15 years, MACLEAN is your solution. MACLEAN offers the widest variety of medium and high voltage SCADA automated overhead loadbreak switches and motor operators.

Due to customer demand, MACLEAN Power Systems has now implemented the SEL Relay user interface into the MACLEAN Motorized Switch Operator (MSO).

Features and Benefits of Using the MACLEAN-SEL MSO...

- *Quality and Dependability of SEL Device with User Friendly Communication Platform. SEL Provides a 10-year, No Questions Asked, Warranty on their Relays.*
- *SEL Relay Rugged Environment, Best in Class, Temperature Range: -40 C to +75 C (-40 F to +167 F)*
- *More Logic, and Less Relays; Reduces Troubleshooting Time in the Field. Additional Functionality can be Added Downstream Without the Need for Re-wiring.*
- *12V, 55AH Battery Paired with a 16V 58F Backup Supercapacitor Provides 50% More Battery Backup Time to Power the MSO During Outages, and Extends the Useful Service Life of the Battery.*
- *MSO Operating Speeds Optimized for MacLean's Distribution and Transmission Switches.*



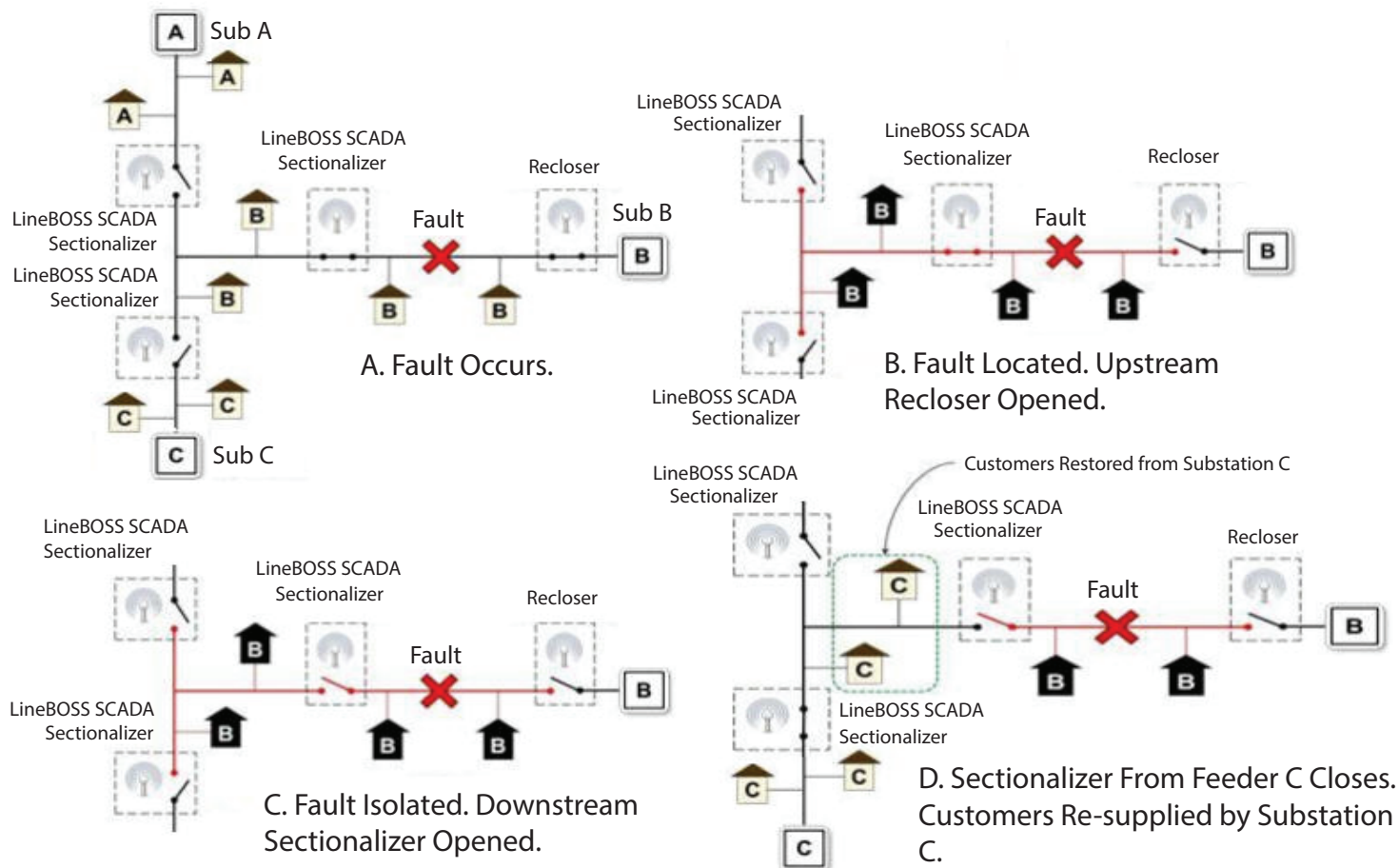
Control Panel of Inertia Motorized Switch Operator with SEL-751

MEDIUM AND HIGH VOLTAGE SWITCHING AND SCADA AUTOMATION SOLUTIONS



LineBOSS Underarm Configuration Switch Controlled by MacLean Motorized Switch Operator with SEL-751A

Using the LineBOSS SCADA Switch and MSO as a Sectionalizer for FLISR (Fault Location, Isolation, and Service Restoration)



MACLEAN-SEL MSO Specifications

General Specifications:

MSO Mechanical and Manual Operation Standard Features (All Models):

Motor Operating Speed: 800mS to 1000mS (Reciprocating)
 G.O. 95 Compliant operating mechanism and enclosure.
 14 gauge S.S. NEMA 3R operator enclosure with ANSI 71 grey powder-coat.
 All linkage components are nonferrous anticorrosive materials and physically / environmentally isolated from the electronic components.
 Means provided to enable the motor to be coupled or decoupled from the output shaft or repositioning the output linkage to its original position prior to manual operation.
 Switch position status indication when operated either by motor or when operated manually.
 A motor de-energizing interlock, physical linkage stop in a padlockable collar is provided for clearance point verification.

MSO Electronic Component Standard Features (Base):

120 VAC surge suppressed power supply input terminal block
 120 VAC thermostatically controlled 150 W cabinet heater to reduce condensation
 120 VAC / 12 VDC 240 W power supply
 12 VDC 55 AH sealed lead acid AGM battery
 16 VDC 58 F supercapacitor backup
 12 VDC and 24 VDC power sources for communication devices
 Battery / power supply / backup supercapacitor, high / low voltage monitoring
 Automatic low battery voltage shutdown procedure
 Automatic battery testing (3 hr intervals)
 Automatic backup supercapacitor testing (1 week intervals)
 SEL Relay HMI Panel (4 pushbuttons, 6 status). Note: see "SEL Relay Point Descriptions"
 Control panel indicator lamps for "Interlock Pin Removed", and "Motor Decoupled" features
 FT-14 Test Switch for sensor inputs to SEL Relay provided for units with sensor input provisions configured.

SEL Relay Point Description:

SEL Relay Status Points (BI):

1. Switch Closed
2. Switch Open
3. *Local / Remote (Local = On)
4. *Motor Decoupled
5. Motor Lockout (Low Battery, or Low Backup Capacitor and AC)
6. Test in Progress (Battery, or Backup Capacitor)
7. *Interlock Pin Removed
8. Loss of 120 VAC (Power Supply Off)
9. Low Battery Warning (HMI only, no LED status)
10. Cabinet Door Open (Remote Status only)

*Note: Status Points are Combined and Shown as "Condition Alarm" on SEL relay status LED's.

SEL Relay Push Button Control Points (BO):

1. Close Switch
2. Open Switch
3. Battery Test
4. MSO Shutdown (Battery power only)

SEL Relay Remote Control Points (RB):

1. Close Switch
2. Open Switch
3. Battery Test
4. Backup Capacitor Test
5. MSO Shutdown (Battery power only)
6. Low Battery Warning Reset

SEL Relay Analog Points (AI):*

1. Battery Voltage
 2. Power Supply Voltage
 3. Backup Capacitor Voltage
- *Additional Inputs for Voltage / Current Sensors Applicable. See Selection Guide

SEL Relay Counters (CO):

1. Open / Close Cycles
2. Battery Tests
3. Capacitor Tests

Visit us today at www.macleanspower.com

or call us toll-free at 800-791-9997

MACLEAN Power Systems
 6665 Hardaway Road
 Stockton, CA 95215