



SEL-351A Distribution Protection System

Optimize Overcurrent Protection, Integration, and Automation



The SEL-351A Relay provides you with a competitive edge through lowered costs and enhanced features for integrated protection, monitoring, and control schemes.

Major Features and Benefits

■ Overcurrent Protection

Protect lines and equipment using a sensitive and secure mix of phase, negative-sequence, and ground overcurrent elements. Use directional control elements in looped systems. Provide high-speed operation, even with severe CT saturation, using the SEL Adaptive Overcurrent Element.

■ Control Logic and Integration

Program remote, local, and latch control switches, as well as the optional front-panel display, using SELogic® control equations.

■ Relay and Logic Settings Software

Use acSELERATOR® SEL-5030 Software to reduce engineering costs for relay settings and logic programming. Use graphical tools included with acSELERATOR® to develop SELogic control equations.

■ Accurate Metering and Monitoring

Use built-in, high-accuracy metering functions to eliminate expensive, separately mounted metering devices. Improve maintenance scheduling using circuit breaker contact wear and substation battery voltage monitors.

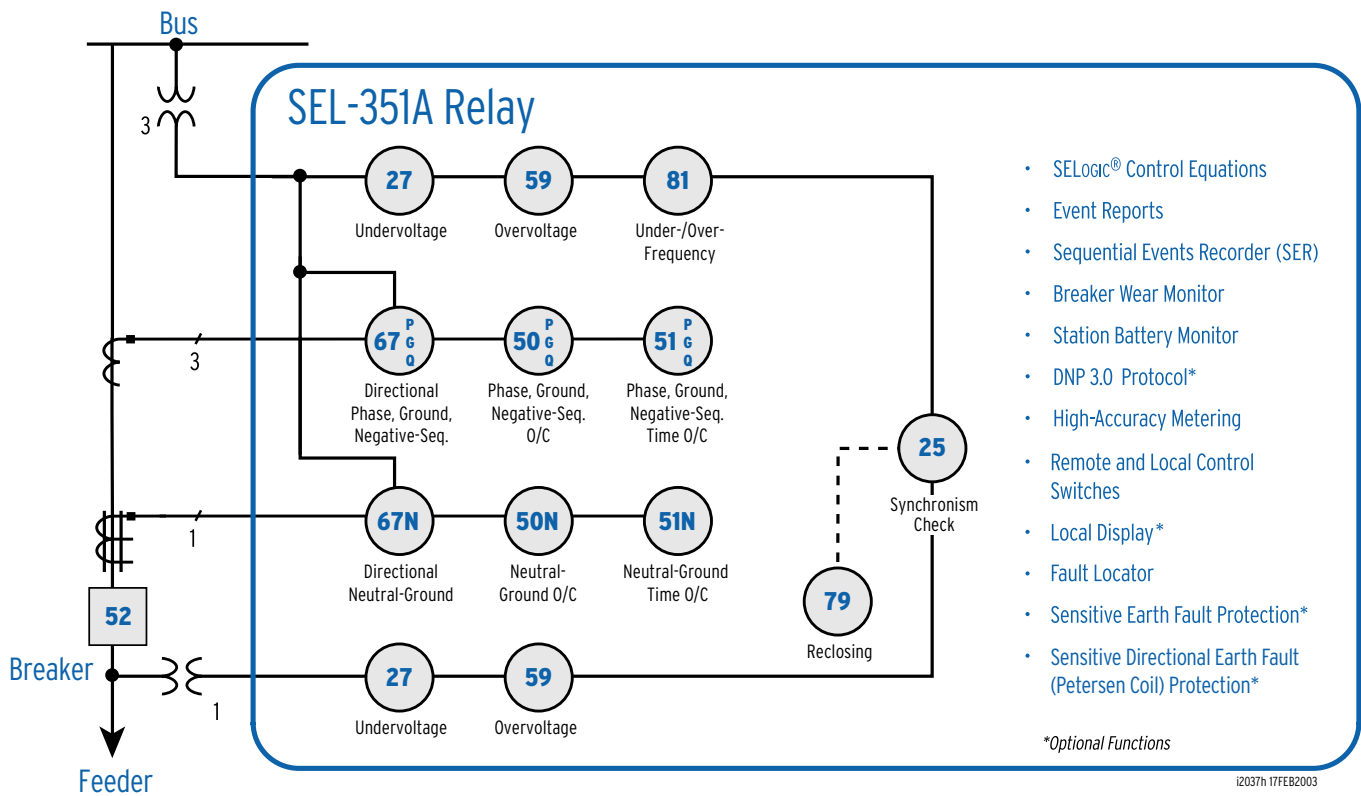
■ Sequential Events Report

Analyze Sequential Events Recorder (SER) and oscillographic event reports for rapid commissioning, testing, and post-fault diagnostics.

Making Electric Power Safer, More Reliable, and More Economical™

SEL-351A Relay

Functional Overview

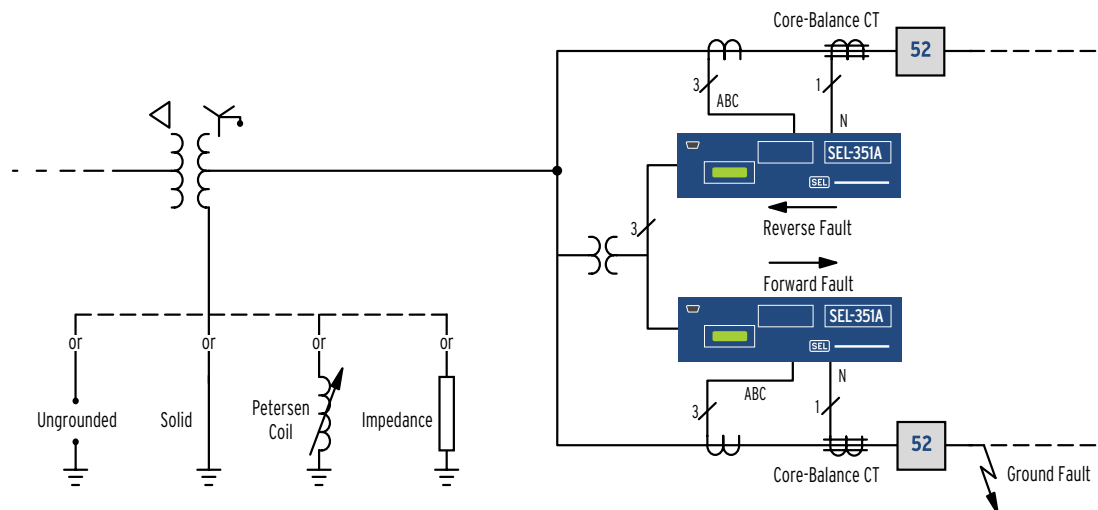


Maintain Sensitive Protection for a Wide Range of Ground Fault Currents

Quickly and selectively trip the faulted feeder on multiple feeder bus configurations to improve system reliability.

Sense faults on compensated systems with as much as 10,000 ohms using the wattmetric element.

Sense faults on compensated systems with as much as 100,000 ohms using the new incremental conductance element (patent pending).



SEL-351A Best Choice Ground Directional Element™ System

Speed SEL-351A Applications With acSELERATOR

Shorten the time required to program the SEL-351A Relay by using acSELERATOR. Use the event viewer features to speed up delivery of post-fault analysis reports.

Use acSELERATOR to apply relay settings:

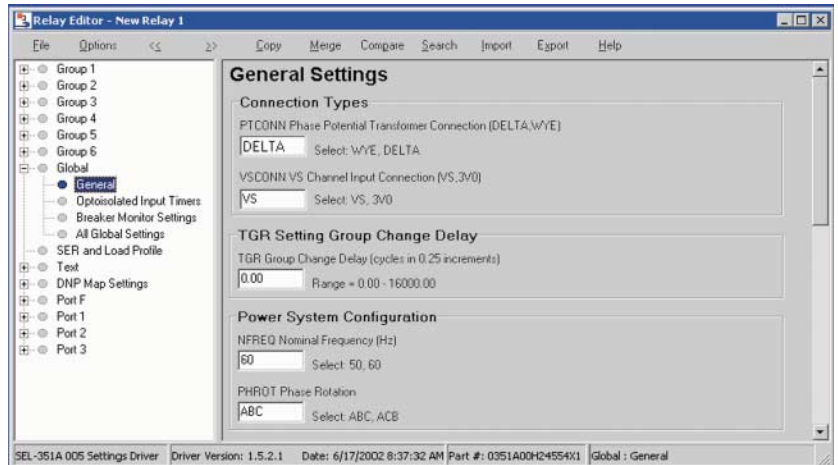
- Develop settings offline.
- View and change settings for enabled elements only.
- Automatically checks interrelated settings.
- Automatically highlights out-of-range settings.
- Transfer settings files by using PC communications link with the SEL-351A Relay.

Use acSELERATOR to program SELogic control equations:

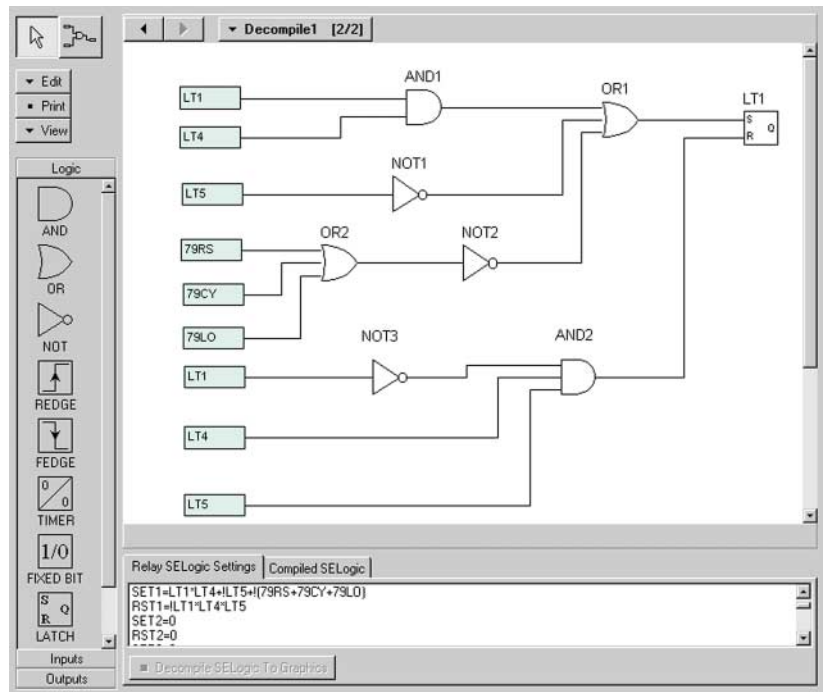
- Develop programmable logic offline.
- Develop SELogic control equations using graphical and/or text editors.
- Automatically creates SELogic control equation text strings from drag and drop graphical logic elements.
- Automatically generates graphical logic elements from SELogic control equation text strings.
- Develop and test SELogic control equations using the acSELERATOR built-in logic simulator.

Use acSELERATOR to analyze fault records and relay element response:

- Convert relay event reports to oscillography with time-coordinated element assertion and phasor/sequence element diagrams.
- Quickly analyze fault records and relay element response using the acSELERATOR event viewer.



Use graphical interface to quickly and intuitively set relay.



Graphically create SELogic control equations.

Connectorized® Version

Choose Connectorized Version for Faster Installation and Removal

Connectorized SEL-351A Relays offer the advantage of robust connections while minimizing installation and replacement time. Three styles of industry-proven, high-reliability connectors are applied. A current shorting connector for current inputs, a plug-in terminal block for I/O, and a quick disconnect connector applied for voltage inputs are all included.



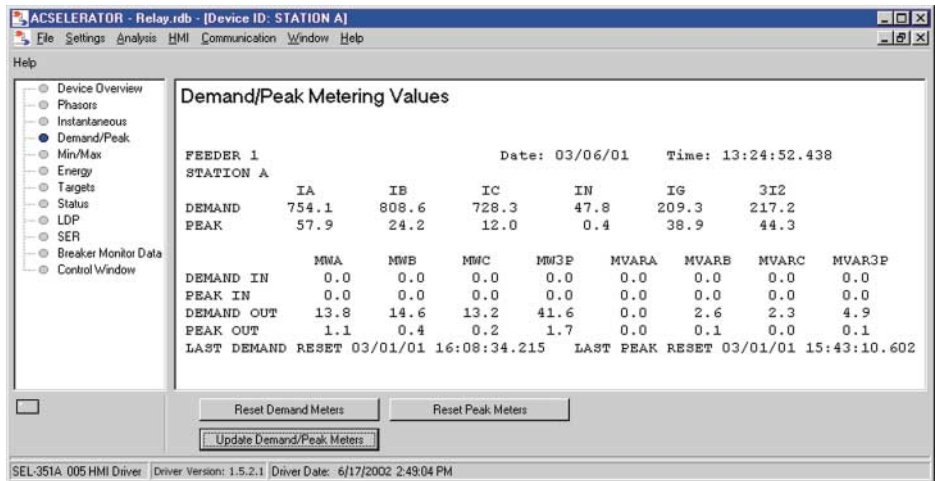
SEL-351A

Distribution Protection System

High-Accuracy Metering

Use High-Accuracy Metering in Place of Panel-Mounted Meters

Reduce the installed cost of breaker control panels by avoiding separately mounted metering devices. SEL-351A Relay metered quantities include phase voltages and currents (including demand), sequence voltages and currents, power, frequency, and energy along with maximum/minimum logging of selected quantities.



General Specifications

■ AC Current Inputs

1 A or 5 A nominal (specify at time of order); 3 x I_{nom} continuous; 100 x I_{nom} 1 second thermal rating; linear to 20 x I_{nom} symmetrical. 250 x I_{nom} for 1 cycle.

0.2 A nominal neutral channel (IN) current input: 15 A continuous, 500 A for 1 second, linear to 5.5 A symmetrical. 1250 A for 1 cycle.

0.05 A nominal neutral channel (IN) current input: 1.5 A continuous, 20 A for 1 second, linear to 1.5 A symmetrical. 100 A for 1 cycle.

5 A nominal burden: 0.27 VA @ 5 A, 2.51 VA @ 15 A

1 A nominal burden: 0.13 VA @ 1 A, 1.31 VA @ 3 A

0.2 A neutral channel (IN) burden: 0.002 VA @ 0.2 A, 1.28 VA @ 15 A

0.05 A neutral channel (IN) burden: 0.0004 VA @ 0.05 A, 0.36 VA @ 1.5 A

■ AC Voltage Inputs

300 V_{LN} or V_{LL} continuous, 600 Vac for 10 seconds (wye or delta).

Burden: 0.03 VA @ 67 V; 0.06 VA @ 120 V; 0.8 VA @ 300 V

■ Frequency and Rotation

60/50 Hz system frequency and ABC/ACB phase rotation are user-settable. Frequency tracking range: 40.1-65 Hz (VA required for frequency tracking).

■ Power Supply Ratings

24/48 V supply: 18-60 Vdc; <25 W

48/125 V supply: 38-200 Vdc, or 85-140 Vac; <25 W

125/250 V supply: 85-350 Vdc, or 85-264 Vac; <25 W

■ Optoisolated Input Ratings (6 total)

24, 48, 110, 125, 220, or 250 Vdc, level-sensitive (specify voltage at time of order).

■ Output Contact Ratings (8 total)

30 A make per IEEE C37.90-1989 paragraph 6.7.2

6 A continuous at 70°C; 4 A continuous at 85°C

330 Vdc MOV for differential surge protection

■ Operating Temperature

-40° to +85°C (-40° to +185°F)

Commitment to Quality

Schweitzer Engineering Laboratories, Inc. is committed to quality. Our certification to the ISO 9001 quality standard and our ten-year product warranty are examples of this commitment. We encourage and appreciate your feedback, and we will use this information to continually improve our products and services.



Contact Us

SEL sales representatives are prepared to assist you. Contact your nearest sales representative, application engineer, or customer service representative at (509) 332-1890. Visit our web site at www.selinc.com for more information.

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