



## 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™***



## 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:

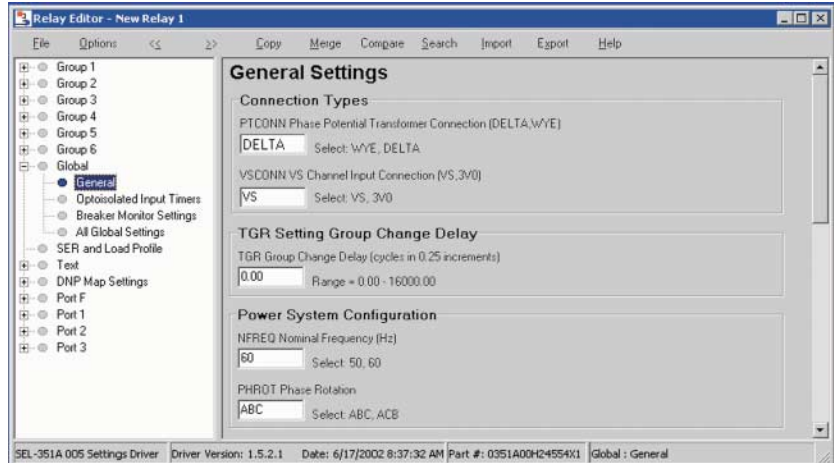
- Develop settings offline.
- View and change settings for enabled elements only.
- Automatically checks interrelated settings.
- Automatically highlights out-of-range settings.
- Transfer settings files by using PC communications link with the SEL-351A Relay.

### Use acSELERATOR to program SELogic control equations:

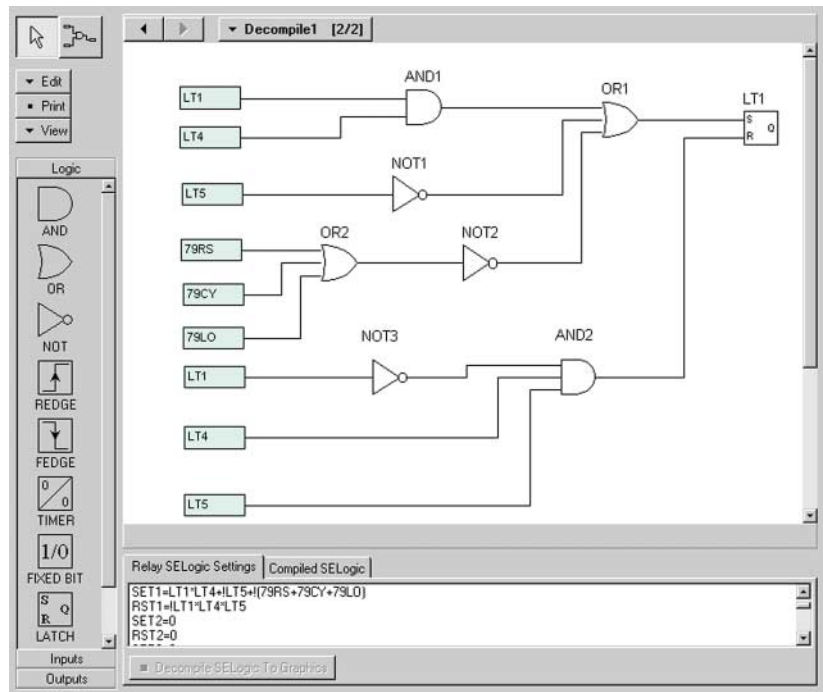
- Develop programmable logic offline.
- Develop SELogic control equations using graphical and/or text editors.
- Automatically creates SELogic control equation text strings from drag and drop graphical logic elements.
- Automatically generates graphical logic elements from SELogic control equation text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



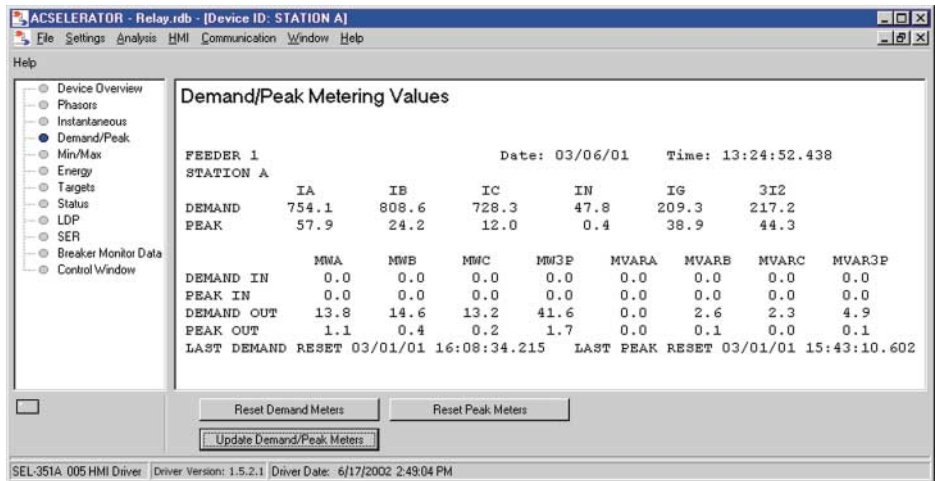
# SEL-351A

## 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](http://www.selinc.com) for more information.

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