# ELGEN Datasheet

EasiLinc generator protection module
For complete unit protection, with or without differential


- Reduce electrical design costs
- SEL-300G relay and all test-switches mounted and wired
- Perfect for retrofit or new construction projects
- Minimal complexity, maximum performance
- Applications need fewer customer settings
- No logic settings required
- Event recording, SER, and communication functions active and configured
- Use in 19” equipment rack or panel cutout
- For any generator application

POWER ENGINEERS

## The ELGEN protection module

The EasiLinc ELGEN protection module simplifies your use of microprocessor-based relays for generator protection. The module includes an SEL-300G relay and appropriate test switches. These devices are pre-wired and installed in a mounting panel suitable for a 19” equipment rack or switchgear panel cutout. Also included are all the AC and DC application schematics you need to generate final construction prints quickly for installation. The real time-saver is in the relay settings.

Setting the ELGEN protection module is different from any microprocessor-based relay application you have faced before. EasiLinc setting transfer software contains a library of application setting files that configure most of the relay settings for each application. Application setting files enable and configure the best features of the SEL-300G relay, leaving only the final protection settings for you. The best part is there are no logic settings necessary for you to define.

Set the new relay using protection concepts that you are familiar with, without learning any relay control commands or logic definition languages.

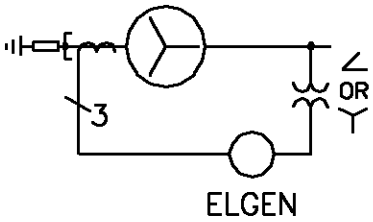
The EasiLinc ELGEN application setting files:

- Predefine output contact and control input functions.
- Enable event reporting, SER, load profiling, and communication functions.
- Prepare the relay for substation automation using EasiLinc ELCOM communication modules, ELHMI interface and ELPAGE paging modules.

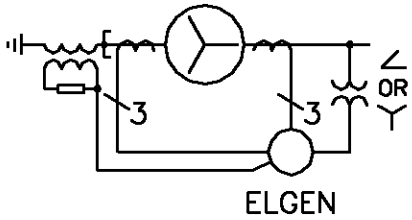
Using the ELGEN, you:

- Reduce engineering costs by reducing the relay setting count.
- Reduce electrical design costs by using the provided AC and DC schematics.
- Reduce installation and commissioning costs with pre-wired and pre-tested modules.
- Reduce plant automation costs by using the standard control interface.
- Standardize your design, installation, operation, and maintenance procedures.
- Obtain the accuracy, reliability, and availability benefits of a high performance relay.
- Support accelerated deployment schedules by taking advantage of included design documents.

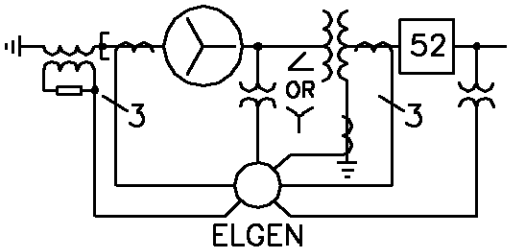
## Product applications



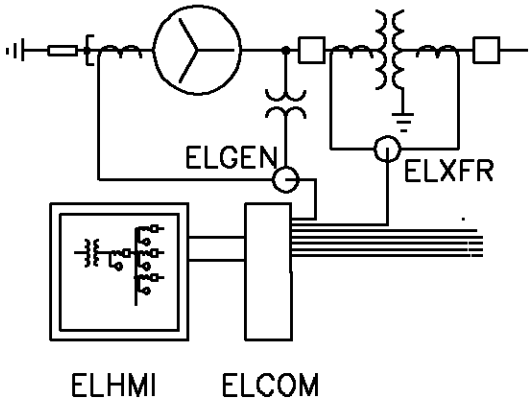

- Basic generator protection




- Complete generator protection
- Unit differential protection
- 100% stator ground protection




- Complete generator protection
- Transformer can be included in differential zone
- Transformer neutral overcurrent protection
- Optional sync. check




- Powerhouse communication architecture using EasiLinc modules
- Architecture may be extended to central office locations
- Modular concept supports multi-stage projects
- Advanced notification solutions, including paging and e-mail are also available

## SEL-300G relay major features

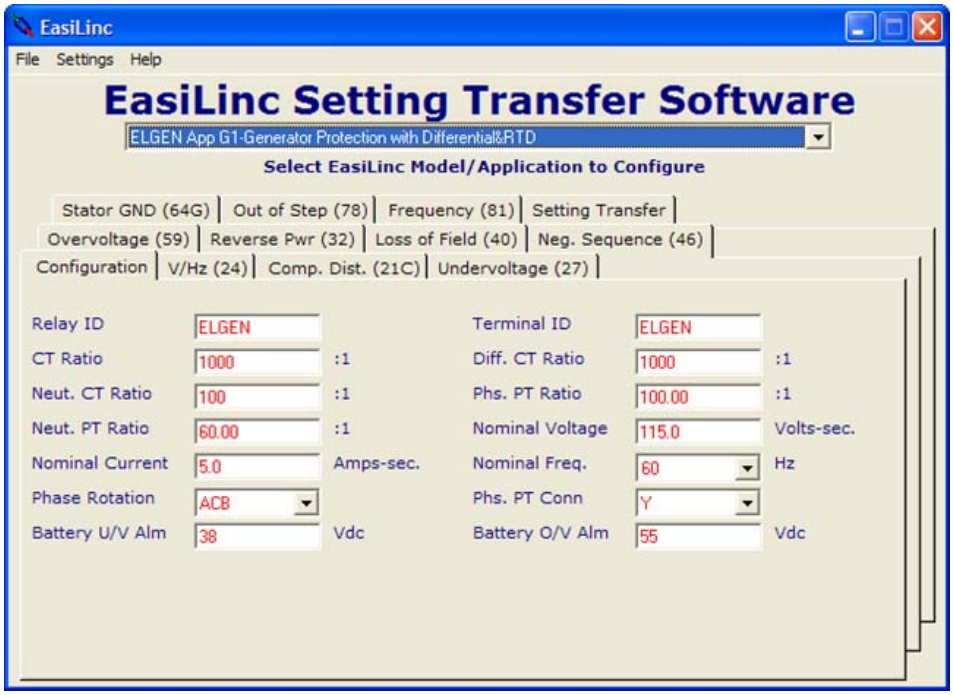
- 100% stator ground protection
- Volts/hertz protection
- Reverse or low forward power protection
- Loss-of-field protection
- Backup overcurrent protection
- Negative-sequence overcurrent protection
- Frequency protection, plus operating time accumulators
- Over/under voltage protection
- Inadvertent energization protection
- Loss-of-potential protection
- Out-of-step protection
- Phase or ground differential protection (optional)
- Synchronism check function (optional)
- SEL-2600 RTD module compatibility (optional)
- Support for four-wire wye or three-wire open delta voltage measurement
- Additional voltage input for synch-check supervision (optional)
- Accurate metering functions for current, voltage, real and reactive power, frequency, DC battery voltage, demand, and energy
- Front-panel LCD display indicates metered values and text messages of generator relay, breaker, and alarm conditions
- Event reporting that automatically captures and stores 15 most recent thirty-cycle oscillographic reports detailing current, voltage, contact I/O, and protection element conditions during events
- Sequence-of-events recording that captures, time-tags, and stores 512 latest state changes of contact inputs, contact outputs, control points, and protections elements
- Broad operating temperature range: -40° to +85°C (-40° to +185°F)
- Type-certified to a wide range of electrical noise, temperature cycling, and seismic tests, as applicable to protective relays in utility and industrial applications

## Test switch major features

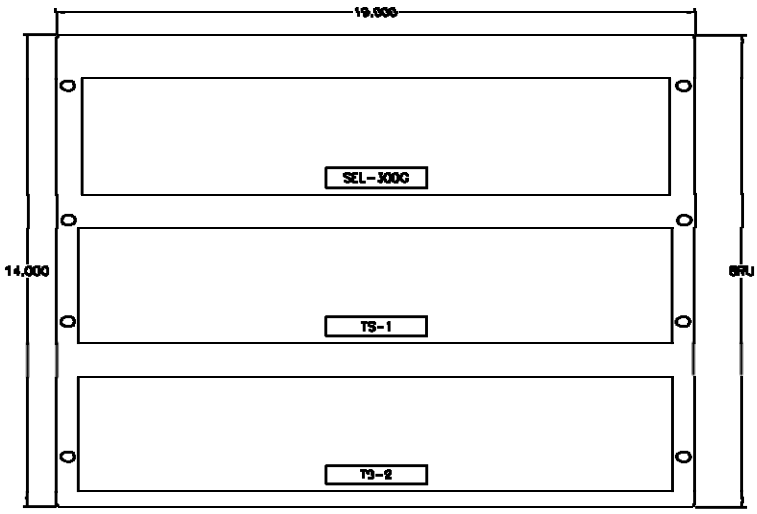
- Two 30-pole STATES FMS-type test switch banks are supplied with each ELGEN
- Each relay contact input and output is double-switched to provide complete isolation
- Eight spare switch poles are available for owner use
- Switches are UL listed and CSA certified
- Clear covers allow pole markings to be viewed without removing covers
- Stud terminals and insulated ring-lugs provide secure internal connections

## EasiLinc setting transfer software major features

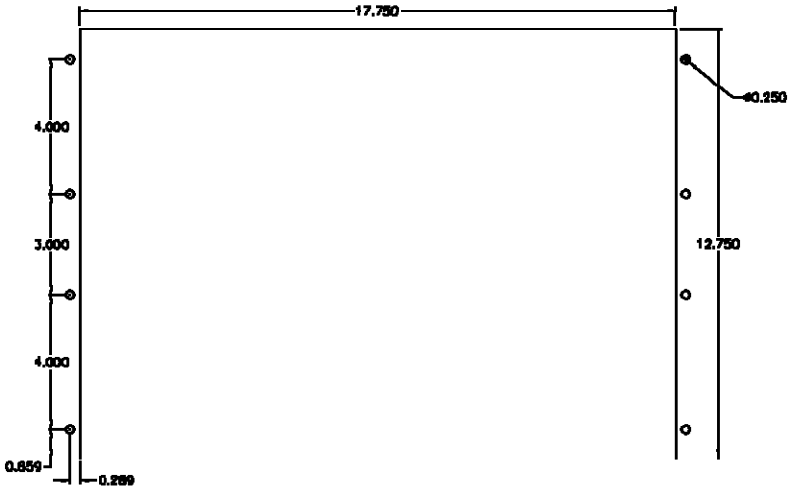
- Tabular interface organizes settings into convenient categories
- Library of application setting files supports a wide variety of protection schemes
- Application setting files pre-define the vast majority of relay settings, including:
    - All logic settings
    - All event reporting, Sequence-of-events record and communication settings
    - All automation settings
- Print function documents all user settings
- Import/export functions simplify the deployment of settings to the field
- Setting transfer screen uploads relay settings with three mouse clicks



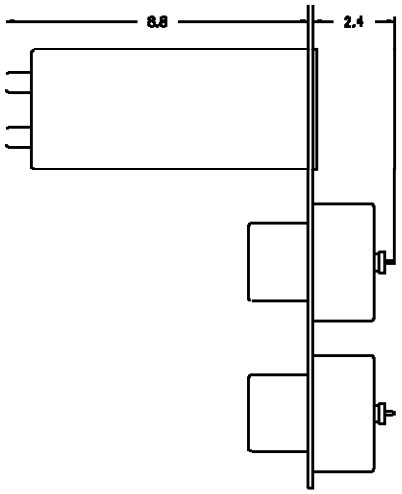
## Mechanical drawings



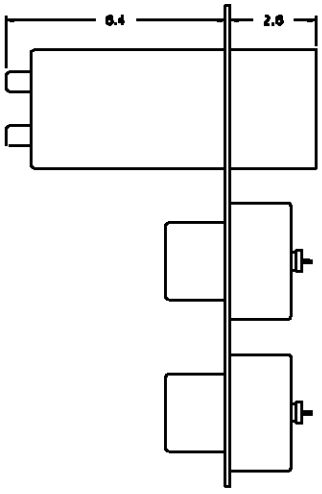

PANEL LAYOUT




CUT & DRILL TEMPLATE




SIDE VIEW (STANDARD MOUNT)




SIDE VIEW (PROJECTION MOUNT)

## Learn More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## ELGEN model numbers

ELGEN-_ _ _ _ _ _ _ -_ _ _ _ _ _ _ _ _
a b c d e f g [Client Number]

Please contact your EasiLinc representative or POWER for your client number.

| If your application requires: | Then Select: |
|---|---|
| Standard:<br>Standard Plus Differential: | a = 0<br>a = 1 |
| External RTD Monitoring:<br>External Field Ground Module:<br>None: | b = 1<br>b = 2<br>b = X |
| Sync. Check: | No Yes<br>c = X 1 |
| 5 A secondary nominal current inputs:<br>1 A secondary nominal current inputs: | d = 5<br>d = 1 |
| 24Vdc/48Vdc Power Supply Rating:<br>48Vdc/125Vdc or 120Vac Power Supply Rating:<br>125Vdc/250Vdc or Vac Power Supply Rating: | e = 2<br>e = 3<br>e = 4 |
| DC control input supply voltage: 24Vdc<br>48Vdc<br>110Vdc<br>125Vdc<br>220Vdc<br>250Vdc | f = 1<br>f = 2<br>f = 3<br>f = 4<br>f = 5<br>f = 6 |
| Semi-flush mounting:<br>Projection mounting: | g = S<br>g = P |

## Guideform specification

Vendor shall supply a microprocessor-based protective relay pre-wired with test switches in a mounting panel no larger than 9 rack units and suitable for mounting in a 19” equipment rack or in an appropriate panel cutout. The relay shall provide current, voltage, frequency, compensated distance, 100% stator ground, unit differential, out of step, over excitation and directional power elements to provide complete generator protection. The relay shall be compatible with external RTD monitors and field ground protection devices. The protection module shall be supported by AC three-line and DC schematic diagrams for the appropriate application options. Schematics shall be included in .pdf, .dwg, and .dxf electronic formats for finalization by the owner. The protection module shall be supported by a PC software package and a library of application setting files. Each application setting file shall pre-configure relay contact input and output logic functions, event report and SER generation, and shall include logic and settings to support future operation with HMI and paging solutions. The software shall provide a simple interface for the user to configure the remaining protection settings and download all settings to the protective relay. The software shall support the storage, printing, and deployment of the installation settings.