

SEL-2664S

STATOR GROUND PROTECTION RELAY



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100 PERCENT STATOR WINDING PROTECTION, 100 PERCENT OF THE TIME

Protect high-impedance grounded generators from ground faults at standstill, during startup, and while running with the multisine frequency injection and neutral overvoltage-based protection in the SEL-2664S.

STATOR PROTECTION FOR RETROFIT AND NEW EQUIPMENT APPLICATIONS

Use the SEL-2664S as a standalone protection device or with SEL or third-party generator protection. The SEL-2664S is ideal for all high-impedance-grounded, synchronous-machine applications.

ROTOR FIELD GROUND PROTECTION

The SEL-2664S Relay, when connected to the SEL-2664 Field Ground Module, detects field ground faults by measuring field insulation-to-ground resistance by using a switched dc voltage injection method.

ELIMINATION OF PROTECTION BLIND SPOTS

Inject up to four individual frequencies to ensure that the protection does not have a blind spot during generator startup by using the unique multisine frequency injection in the SEL-2664S.

RUGGED DESIGN FOR EXTREME ENVIRONMENTS

Built to the same high standards as SEL protective relays, the SEL-2664S withstands vibration, electrical surges, fast transients, and extreme temperatures, meeting stringent industry standards. The printed circuit boards are conformally coated to provide an additional barrier to airborne contaminants, such as hydrogen sulfide, chlorine, salt, and moisture.

FLEXIBLE COMMUNICATIONS

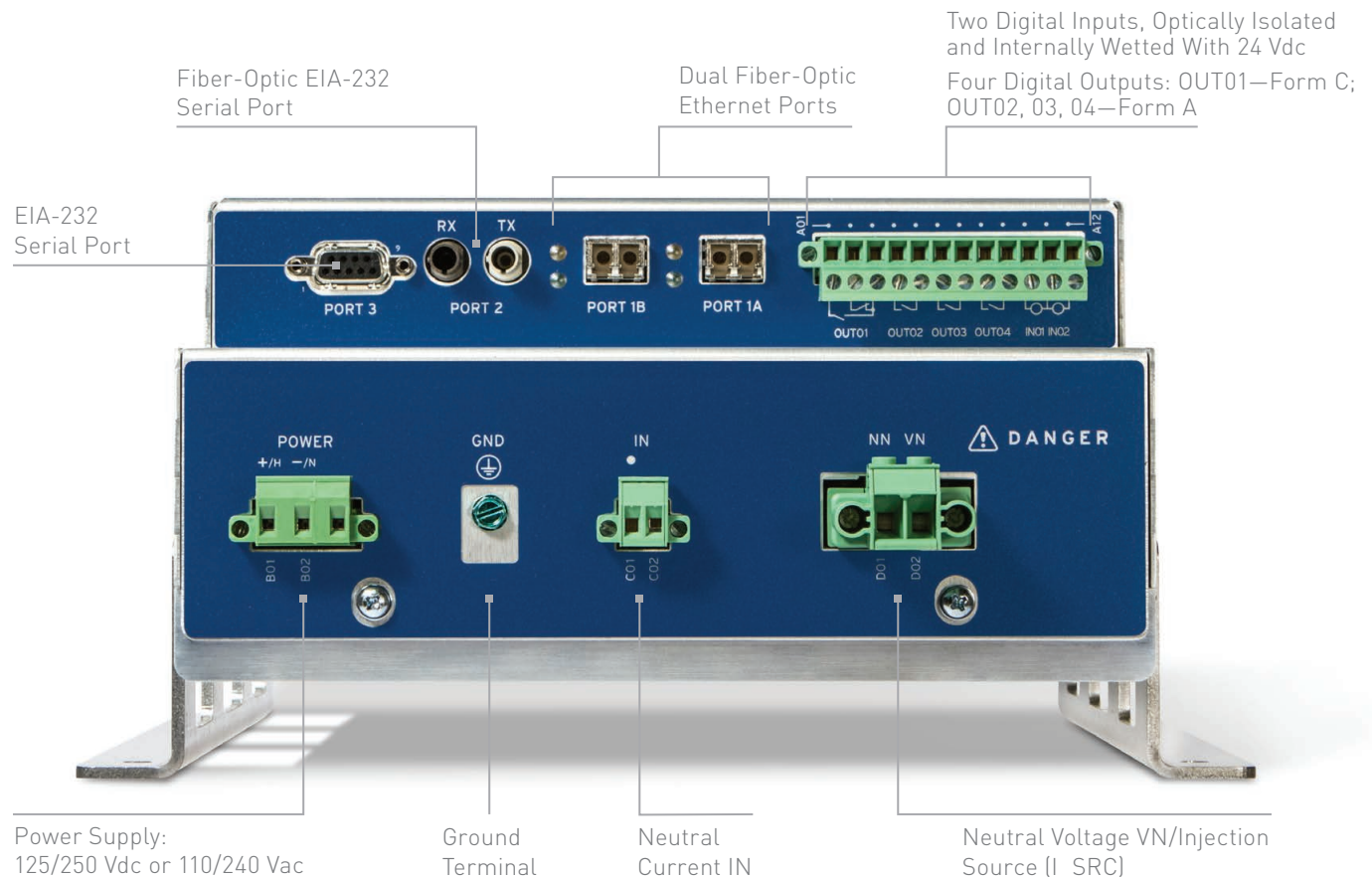
Multiple communications protocols, including Modbus®, DNP3, Telnet, IEC 61850, and FTP allow for simple integration. Apply communications-assisted tripping schemes with standard protocols, including MIRRORING BITS® and IEC 61850 GOOSE. The SEL-2664S offers one fiber serial and two fiber Ethernet ports along with two EIA-232 serial ports.

REDUNDANT OPERATION

The SEL-2664S can operate in redundant mode for critical applications. Use two SEL-2664S Relays in parallel to provide redundant stator ground fault protection.

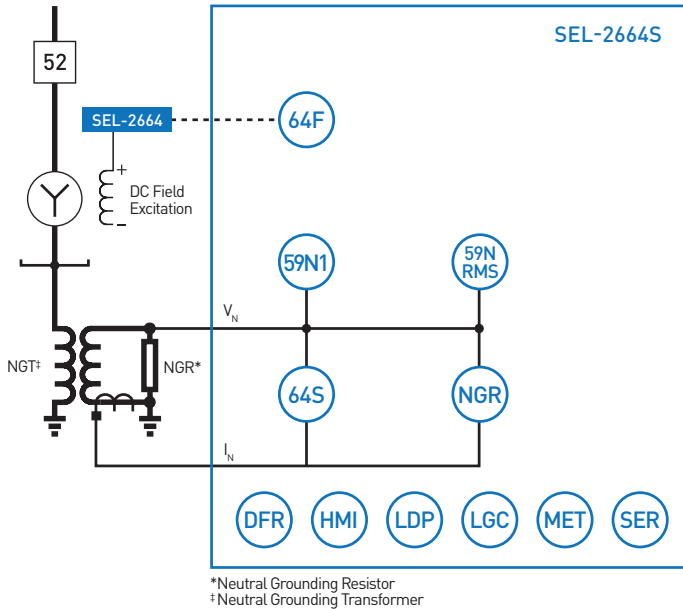
FLEXIBLE HARDWARE

Available with wall-, panel-, and rack-mount options, the SEL-2664S is powered by a 125/250 Vdc or 110/240 Vac power supply and has four trip-rated output contacts and two contact inputs. Eight target LEDs and a target/trip reset pushbutton provide an easy-to-use interface.



FUNCTIONAL OVERVIEW

Injected current passes through high-impedance capacitance from the stator winding to ground when the generator is operating normally. When a ground fault develops anywhere on the winding, the injected current has a lower impedance path to ground. The SEL-2664S detects this condition and alerts the operator or trips the machine.



ANSI NUMBERS/ACRONYMS AND FUNCTIONS

59N	Neutral Overvoltage
64F	Field Ground
64S	Stator Ground

ADDITIONAL FUNCTIONS

DFR	Event Reports
HMI	Operator Interface
LDP	Profile Report Monitoring
LGC	SEL _{Logic} ® Control Equations
MET	High-Accuracy Metering
NGR	NGR Open/Short
SER	Sequential Events Recorder

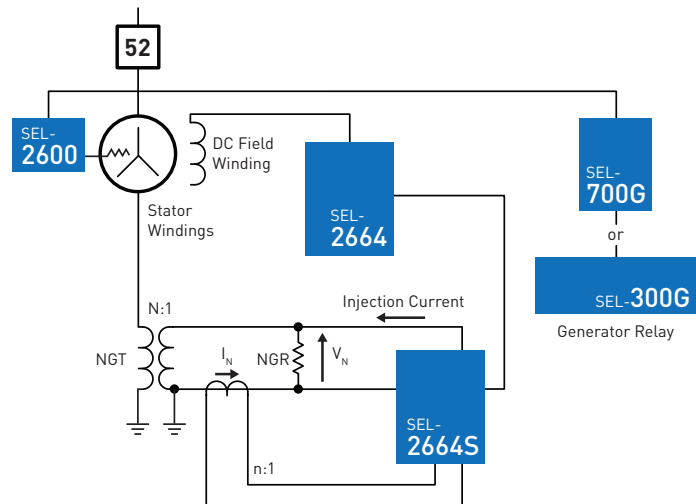
COMPREHENSIVE GENERATOR PROTECTION

The SEL-2664S and SEL-2664 Field Ground Module together provide complete stator and rotor ground fault protection.

- Impedance-based ground fault detection with current injection into the high-impedance neutral-to-ground connection
- Neutral overvoltage detection
- Impedance-based rotor ground fault detection using square wave voltage injection in the rotor circuit

Apply the SEL-2664S with the SEL-300G Generator Relay or SEL-700G Generator Protection Relay to provide comprehensive generator protection.

- 100 percent stator winding ground fault detection
- Out-of-step detection
- Directional power elements
- Current differential
- Over- and underexcitation protection
- Metering and reporting





**MAKING ELECTRIC POWER SAFER,
MORE RELIABLE, AND MORE ECONOMICAL**

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