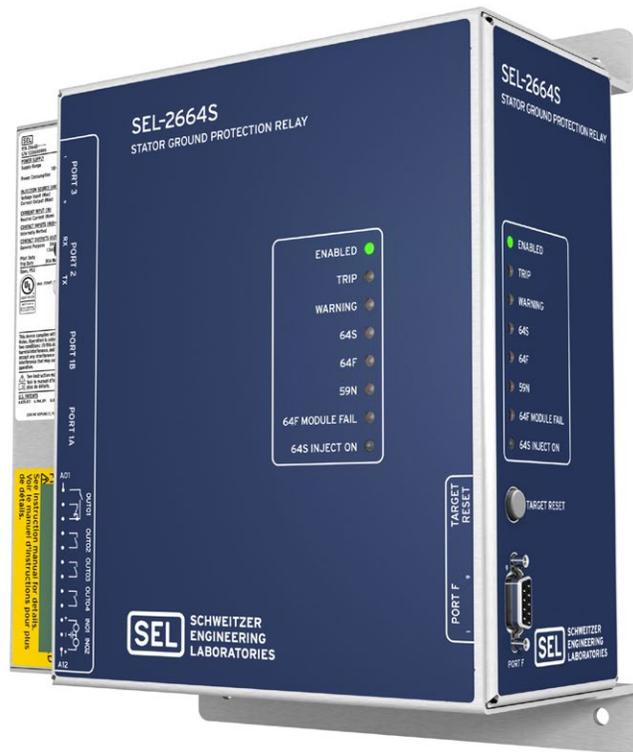


SEL-2664S

Stator Ground Protection Relay

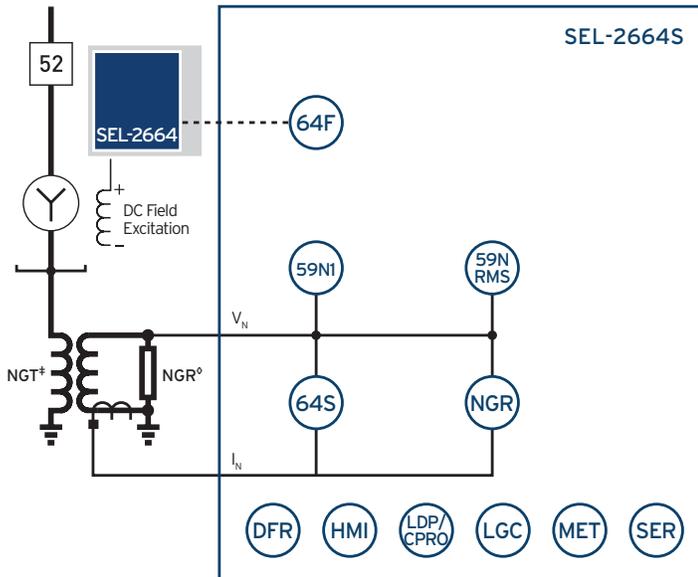


100 Percent Stator Ground Protection, 100 Percent of the Time

- Provide 100 percent stator ground protection with a combination of signal injection and neutral overvoltage elements.
- Eliminate frequency blind spots during generator startup by using the unique multisine injection.
- Reduce cost by using the SEL-2664S Stator Ground Protection Relay as a standalone protection device or with SEL or third-party generator protection.
- Simplify commissioning with the SEL-4664 Calibration Module.



Functional Overview



*Neutral grounding transformer
 *Neutral grounding resistor

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
CPRO	Compressed Profile Report
LGC	SELogic® Control Equations
MET	Metering
NGR	Neutral Grounding Resistor Open/Short
SER	Sequential Events Recorder

*Optional features



Key Features

Secure and Reliable 100 Percent Stator Winding Ground Protection

Protect generators from stator ground faults at standstill, during startup, and while running with the multisine frequency injection and neutral overvoltage-based protection in the SEL-2664S. This solution is intended for use with high-resistance grounded generator applications.

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-resistance-grounded, synchronous-machine applications.

Rotor Field Ground Protection

Detect field ground faults by connecting the SEL-2664S to the SEL-2664 Field Ground Module to measure field insulation-to-ground resistance using a switched dc voltage injection method.

Elimination of Protection Blind Spots

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

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.

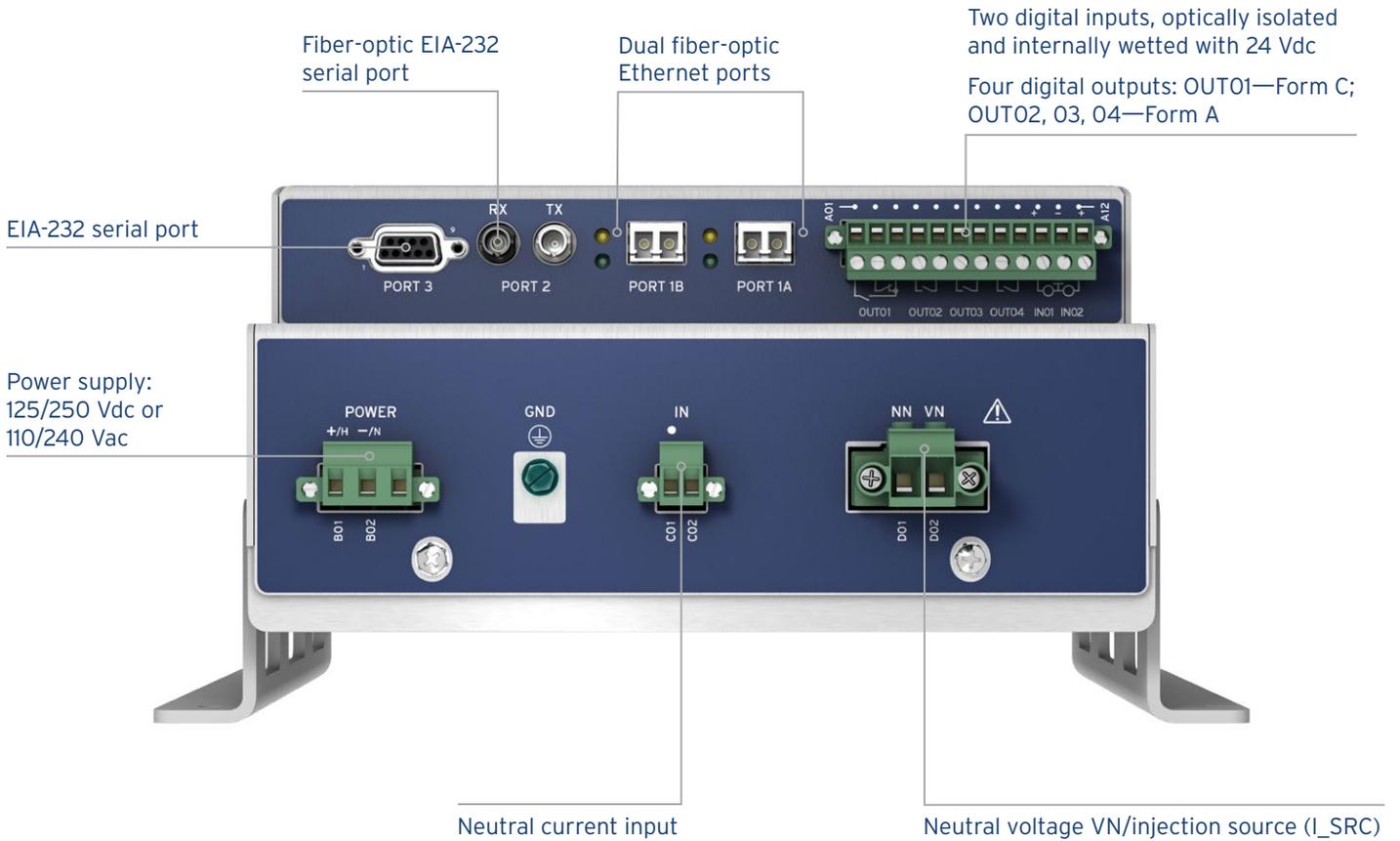
Flexible Communications

Easily integrate the SEL-2664S into your system with multiple communications protocols, including Modbus, DNP3, Telnet, IEC 61850, and FTP. You can implement communications-assisted tripping schemes with standard protocols, including MIRRORRED BITS® communications and IEC 61850 GOOSE. The SEL-2664S offers one fiber serial port, two fiber Ethernet ports, and two EIA-232 serial ports.

Simplified Calibration

The SEL-2664S automated field calibration procedure uses the SEL-4664 Calibration Module, streamlining the setup and commissioning process.

SEL-2664S Product Overview



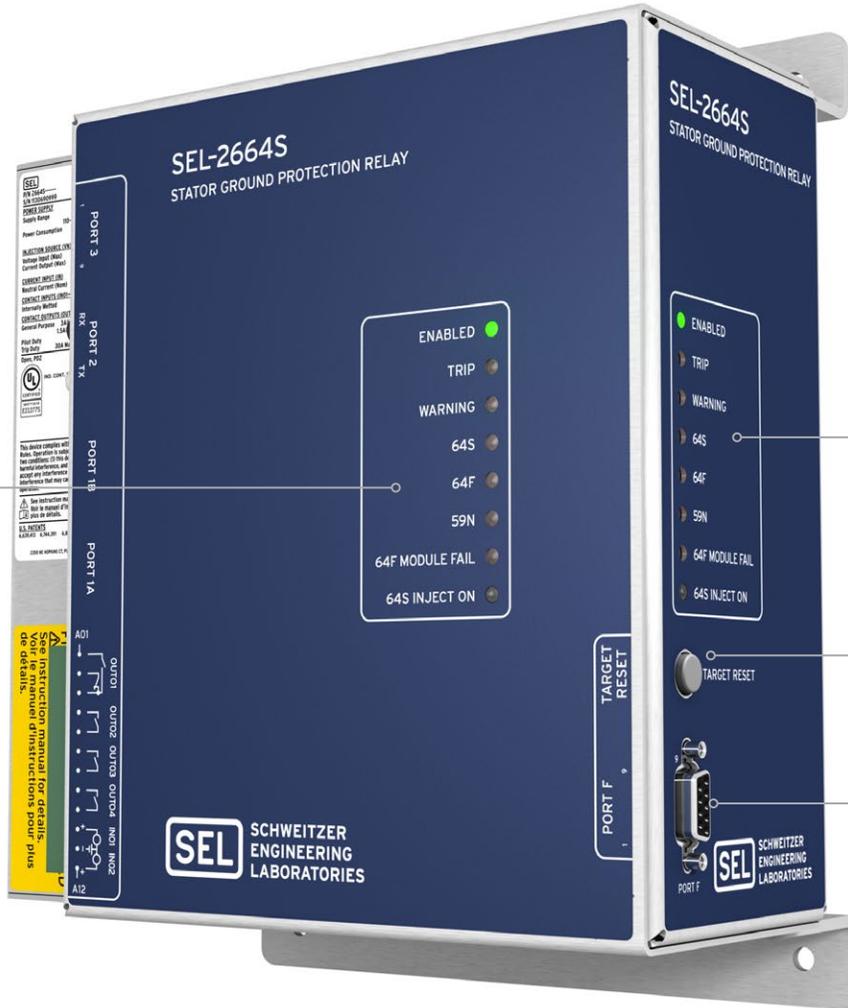
Front and Side Faceplates

Eight status LEDs for an easy-to-use interface

Eight status LEDs for an easy-to-use interface

Target/trip reset button

Front EIA-232 serial port



SEL-4664 Product Overview



9 V battery compartment

LEDs indicate applied calibration resistance



Test lead ports (not polarity sensitive)

Removable fuse

SEL-2664S Specifications

General

Injection Source (I_SRC)	Source rating: 50 VA continuous Nominal injected current amplitude: 0.5–5.0 A rms Continuous thermal rating: 5 A rms Amplifier clipping level: $> \pm 74$ V peak Four-Frequency Multisine Injection For 60 Hz nominal: 18, 24, 36, and 48 Hz For 50 Hz nominal: 15, 20, 30, and 40 Hz Maximum open-terminal voltage: 80 V peak Protection: Self-protecting
Neutral Voltage Inputs	Rated operating voltage (U_o): 2.5–240 Vac Rated insulation voltage (U_i): 300 Vac Maximum continuous overvoltage rating: 275 Vac
Core-Balanced Current Transformer (CBCT) Current Input	Nominal input current: 5 mA ac rms Continuous thermal rating: 1 A Measurement Clipping Level 100 mA peak (when CTN_LOC = SEC) 12 mA peak (when CTN_LOC = PRIM) One-second thermal rating: 10 A Burden rating: 4 Ω Rated insulation voltage (U_i): 300 Vac
Output Contacts	This relay supports Form A and C outputs. DC Output Ratings Operational voltage: 24–250 Vdc Continuous carry: 6 A @ 70°C, 4 A @ 85°C AC Output Ratings Maximum operational voltage: 240 Vac Rated operational current (Ie): 3 A @ 120 Vac, 1.5 A @ 240 Vac
Communications Protocols	SEL, Modbus, DNP3, FTP, TCP/IP, Telnet, Simple Network Time Protocol (SNTP), IEC 61850, and MIRRORRED BITS communications
Operating Temperature	–40° to + 85°C (–40° to + 185°F)
Mounting Options	Available with wall-, panel-, and rack-mount options
Certifications	To view certifications for the SEL-2664S, please visit: selinc.com/company/certifications

Injection Source, Neutral Voltage Inputs, and CBCT Current Input specifications shown are for the most recent amplifier version. For previous versions, please see Hardware Features in the instruction manual for more detail.

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