

# SEL-2664

## Field Ground Module

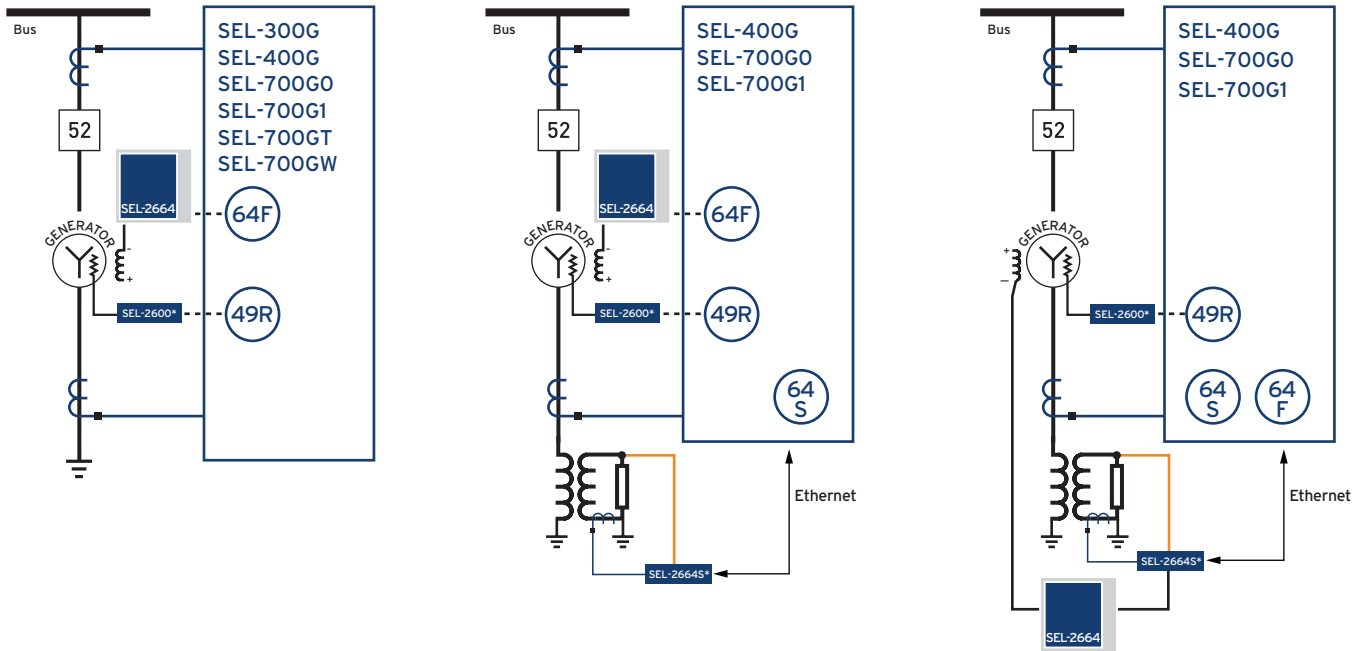


## Minimize generator damage with field ground monitoring

- Continuously measures field winding insulation resistance and transmits data to protective relays for action.
- Helps detect faults when a generator is energized or de-energized.
- Allows integration of field resistance measurements into a plant data historian.
- Easily integrates with SEL generator relays to protect critical generator components.



# Functional Overviews



The SEL-2664 Field Ground Module can be directly connected to the SEL-300G Generator Relay, SEL-400G Advanced Generator Protection System, and versions of the SEL-700G Generator Protection Relay (i.e., SEL-700GO, SEL-700G1, SEL-700GT, and SEL-700GW) via a fiber-optic serial connection. The SEL-2664 may be connected to the SEL-2664S first and then to the SEL-400G, SEL-700GO, or SEL-700G1.

## ANSI NUMBERS/ACRONYMS AND FUNCTIONS

49R	Thermal Overload (Resistance Temperature Detector [RTD])
64F	Field Ground
64S	Stator Ground (Harmonic Injection)

\*Optional feature



# Key Features

## Continuous Monitoring

The SEL-2664 calculates field winding insulation resistance in the rotor of a synchronous generator and transmits the values to a relay that has field ground protection element (64F) alarm and/or trip functions. The relay can then prevent severe damage to machines from excessive vibration or rotor steel and/or copper melting. The SEL-2664 can help detect faults when the generator is in an energized or de-energized state. Measurements are possible before the generator even starts rotating, allowing you to also protect your generator from excessive starting stress.

## Plug-In Compatibility for Generator Protection

The SEL-2664 easily integrates with the SEL-300G, SEL-400G, and SEL-700G to protect all the critical components in your generator. You can also add the SEL-2664 to the SEL-2664S to protect rotor and stator windings from ground faults.

## Noise-Free Optical Communication

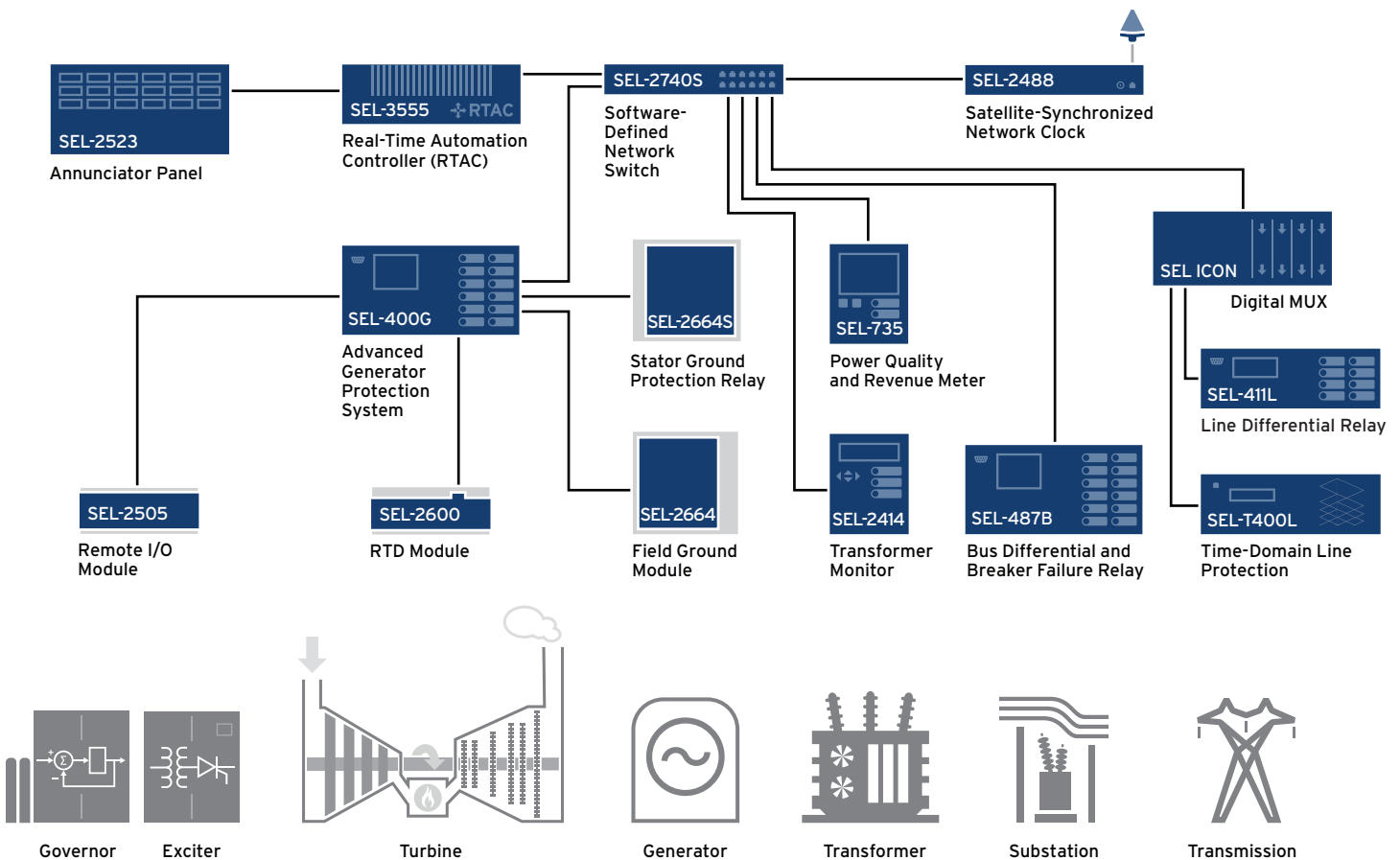
Avoid potentially hazardous voltages from a high-voltage dc field to the relay or relay panel by using digital fiber-optic communication of resistance values from the SEL-2664. Eliminate tedious calibrations and variations that are common when sending analog signals to the relay.

## Easy Installation

The SEL-2664 is ready to connect to your generator field right out of the box. Simply turn on the 64F element, and set the port, alarm, and trip values in the SEL-400G, SEL-300G, SEL-700G, or SEL-2664S.

## Rugged Design for Extreme Environments

Built to the same high standards as SEL protective relays, the SEL-2664 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.



A complete generator protection solution for critical power system assets.

# Overview



## Specifications

### General Specifications

**DC Voltage Input**    Nominal operating voltage: 60–750 Vdc continuous  
Maximum rated voltage range: 48–825 Vdc continuous  
Rated insulation voltage: 825 Vdc  
1-minute thermal rating: 1,500 Vdc  
Continuous current rating: 0.5 A

**Steady-State Accuracy**    64F pickup to 200 k $\Omega$   
 $\pm 5\% \pm 500 \Omega$  for  $48 \leq VF \leq 825$  Vdc  
 $\pm 5\% \pm 20$  k $\Omega$  for  $825 \leq VF \leq 1,500$  Vdc  
Metering up to 20 M $\Omega$

**Power Supply**    Nominal input voltage: 24–250 Vdc, 110–240 Vac  
Input voltage range: 18–300 Vdc, 85–264 Vac  
Power consumption: <5 W or 15 VA

**Operating Temperature**     $-40^{\circ}$  to  $+85^{\circ}\text{C}$  ( $-40^{\circ}$  to  $+185^{\circ}\text{F}$ )

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