

# RadioRANGER®

## Underground Wireless Fault Indication System



## Reduce fault-finding time in subsurface vault applications

- Minimize fault-finding time and troubleshooting crew size. No need to open, enter, pump, or ventilate multiple vaults while blocking traffic.
- Improve line crew safety. Avoid leaving the truck to enter vaults in busy streets.
- Benefit from the proven reliability and quality record of SEL fault indicators.
- Choose from multiple SEL fault indicator types to match your application and system requirements.
- Display fault path information on the handheld Remote Fault Reader.
- Maximize application efficiency using the modular and scalable system in a variety of vault configurations.



# Wireless Fault Indication System Components

## SEL-8310 Remote Fault Reader

Identify the phase and location of underground faults with the handheld Remote Fault Reader.

- ① Flexible antenna
- ② Operates on three alkaline or rechargeable AA batteries
- ③ Display for up to eight unique Wireless Interface IDs
- ④ Easy-to-use keypad
- ⑤ Durable, buoyant case rated to IP54
- ⑥ Wireless Interface health monitor
- ⑦ Communicates fault indicator presence and status

Red—Tripped Fault Indicator

Green—Untripped Fault Indicator

Off—No Fault Indicator Present



## SEL-8300 Wireless Interface

The Wireless Interface communicates fault indicator information to the Remote Fault Reader.

- ① Integral antenna (remote antenna also available)
- ② Eight easy-to-set IDs allow for application in dense areas
- ③ Maintenance free—system health monitored remotely via the Remote Fault Reader
- ④ Estimated 15-year product life
- ⑤ Sealed, waterproof, and IP68 rated
- ⑥ Connect up to 12 fault indicators wired with RadioRANGER Interface Probes



# Underground Fault Indicator Options

Choose the most appropriate SEL fault indicator model for your application. Multiple phase sensor and reset choices provide the flexibility to complete your RadioRANGER solution. Equipped with the RadioRANGER Interface Probe, SEL fault indicators connect to the Wireless Interface.

## RadioRANGER Interface Probe

- Communicates fault indicator status to the Wireless Interface via a magnetic interface.
- No expensive watertight electrical connections required.
- Fitting an SEL fault indicator with a RadioRANGER Interface Probe provides application flexibility.



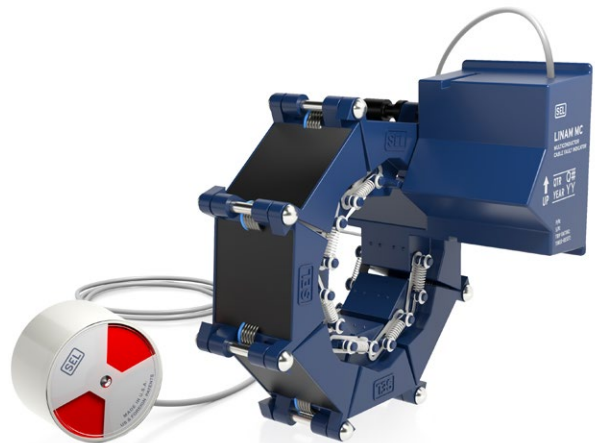
## LINAM® UGFI Underground Fault Indicator

- Adjacent-phase immunity
- Secure fault detection
- Flexible fault detection thresholds
- Rugged and submersible design
- Line-powered functionality
- Current reset and timed-reset options
- Simple SCADA interface
- Display options
- RadioRANGER remote fault indication



## LINAM MC Multiconductor Cable Fault Indicator

- Identify the location of a fault.
- Apply on a wide range of paper-insulated lead cable (PILC) sizes and configurations and on triplexed underground distribution cable.
- Optimize fault-finding time with 4- or 8-hour automatic reset.
- Install the split-core sensor quickly and simply without disconnecting the LINAM MC.



## LINAM TPR Underground Test Point Reset Fault Indicator

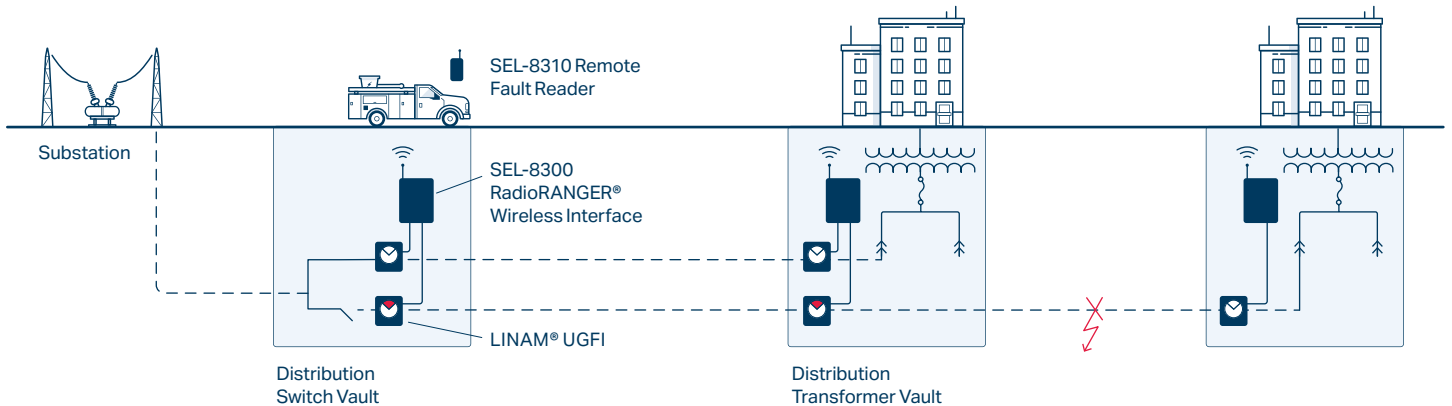
- Durable, easy-to-install sensor
- Automatic reset upon voltage restoration



# RadioRANGER System Features

- Simple street-level fault indicator status retrieval eliminates the need for fault-finding crews to access multiple vaults.
- Multiple IDs allow a crew to easily identify the vault, way, and phase on which the fault occurred.
- Remote fault reader displays Wireless Interface system health and fault indicator status.
- IP68-rated Wireless Interface and waterproof interconnection system (rated to 15 feet submersion) ensure environmental integrity required for vault applications.
- SEL fault indicators made by the SEL have a 75-plus-year history of accuracy and reliability.
- Two-way communications link prevents ambiguity by transmitting both tripped and reset fault indicator information at 900 MHz (902 to 928 MHz range). Users can retrieve Wireless Interface and fault indicator status at any time.

SEL fault indicators equipped with magnetic RadioRANGER Interface Probes communicate their status to the Wireless Interface. Utility personnel can quickly retrieve subsurface fault indicator status at street level via the wireless communications link between the Wireless Interface and Remote Fault Reader. The RadioRANGER solution reduces the need to access vaults to retrieve the fault indicator status, reducing fault-locating time and improving utility personnel safety.



## **SEL** SCHWEITZER ENGINEERING LABORATORIES

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