SEL-TPR

Underground Test Point Reset Fault Indicator

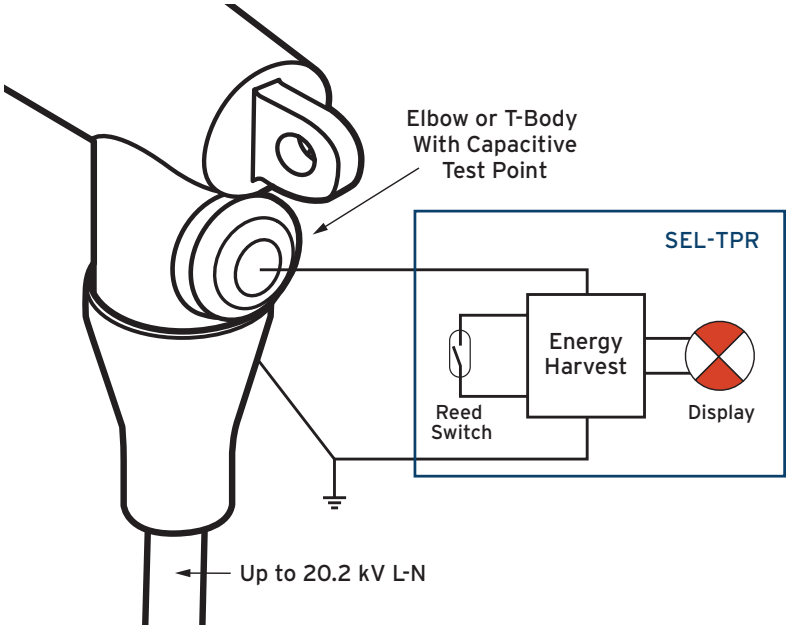
Underground cable fault indicator installation made simple

- Fast fault location leads line crews straight to the fault and reduces the outage duration.
- Compact, self-contained, and line-powered design eliminates cable neutral positioning concerns.
- Universal fit with capacitive test points.
- Ten-year, worldwide warranty lowers the overall cost of ownership.

Overview

The SEL-TPR Underground Test Point Reset Fault Indicator attaches to capacitive test points. It replaces the protective cap on capacitive test points, acting as a new cap with the added benefit of providing fault indication. The SEL-TPR eliminates the need to account for the position of the concentric neutral, as is common with cable-mounted faulted circuit indicators (FCIs).

Install an SEL-TPR with any industry-standard hot stick using the rubber molded hook eye. Powered by voltage, the SEL-TPR does not have a minimum load current requirement, making it great for lightly loaded circuit applications.



Key Features

Fast and Easy Installation

The SEL-TPR mounts easily on existing test points. It eliminates the need to modify the neutral cable, unlike other FCI types, and you can install it with a single hot stick.

Easily attach the SEL-TPR to capacitive test points with a single hot stick.

Maintenance-Free

Line-powered by test point voltage, SEL-TPRs do not require batteries, making them maintenance-free.

Rugged Design and Build

All SEL-TPR electronic components are fully encapsulated in potting compound to ensure reliable operation in high-humidity environments, like pad-mounted enclosures. SEL-TPRs are also wrapped in a thick, durable semiconductive EPDM rubber housing that protects against impact and grounds the sensor to the elbow body to complete the charging circuit.

Automatic Reset

SEL-TPRs automatically reset from capacitive test point voltage when the power is restored after an outage.

Universal

SEL-TPRs work with most 200 A and 600 A elbow brands that have capacitive test points.

Display Options

Depending on the application, you can choose from a variety of display options, including battery-free mechanical flag displays and bright BEACON® LED displays. The built-in mechanical target display offers the most compact configuration.

Remote display options reduce arc-flash risks to line crews by eliminating the need to open high-voltage enclosures during fault-finding patrols.

Single-phase SEL-TPR with built-in mechanical target display

Standard "V" display*

BEACON bolt display

Large "L" display*

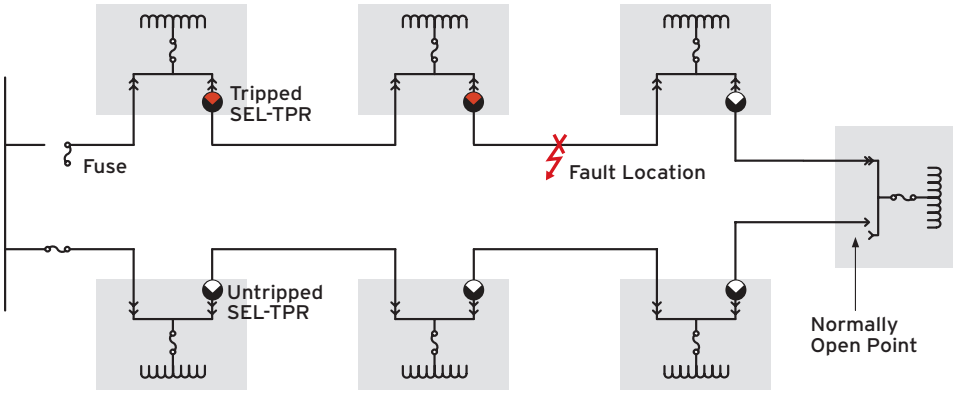
RadioRANGER® Remote Fault Reader (SEL-8310) display**

*BEACON versions are also available.
**RadioRANGER Remote Fault Reader must be purchased with the SEL-8300 Wireless Interface to operate.

Applications

Single- and Three-Phase Feed-Through Pad-Mounted Transformers

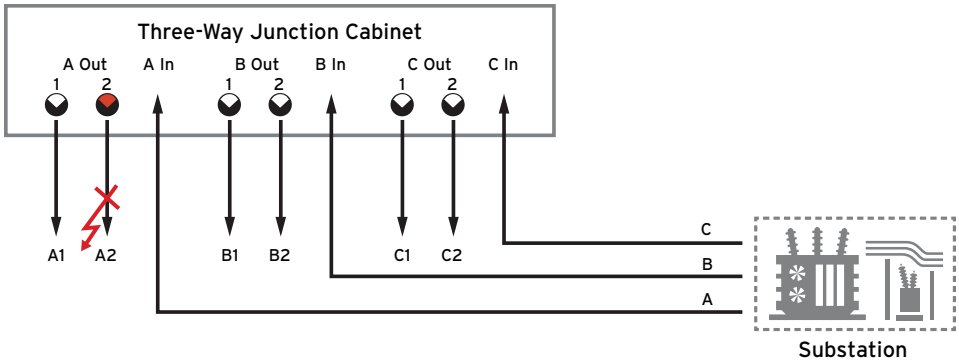
Install the SEL-TPR on the outgoing cable phase(s) within each pad-mounted transformer to monitor for cable faults. The SEL-TPR can quickly identify faults, including those caused by dig-ins, aging cables, and wildlife. SEL-TPRs are easier to install than cable-type FCIs, especially with the space constraints of single-phase transformers.



SEL-TPRs identify the faulted cable section within a loop of pad-mounted transformers that contain a normally open point.

Junction Cabinets

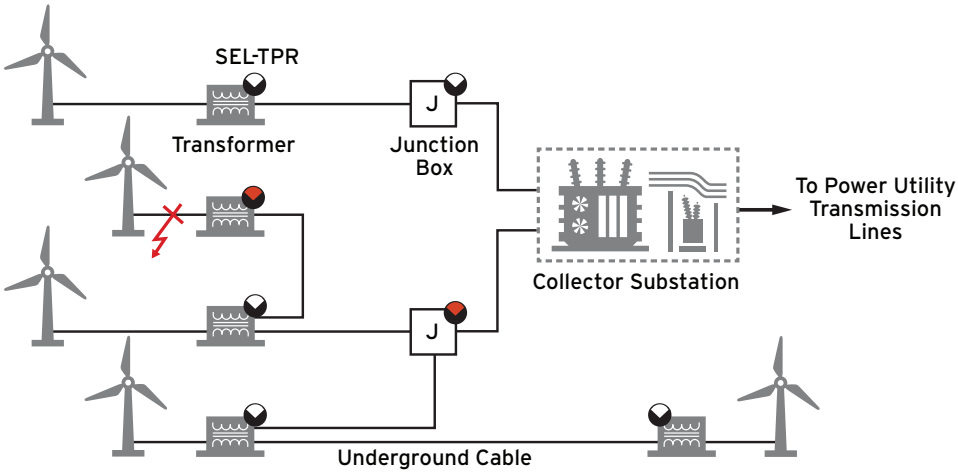
Apply SEL-TPRs within junction cabinets to elbows and T-bodies with test points to speed up FCI deployment. The SEL-TPR's simple installation is ideal for junction cabinets with space constraints and numerous cables. You can select the junction shield option to maximize immunity to adjacent phase tripping.



Apply SEL-TPRs to quickly identify faulted line segments in junction cabinet applications.

Wind and Solar Farms

Determine fault locations and restore operations in wind farm collector systems. A single fault can disable from one to an entire line of turbines. SEL fault indicators help operations personnel quickly determine the location of the fault, isolate the faulted section, and restore the balance of the wind farm. Despite the presence of multiple sources, intelligent settings selection ensures the SEL-TPR will detect faults sourced by the collector substation and not respond to backfeed energy. This makes the SEL-TPR an ideal solution for wind farm fault detection.



Three-phase wind farm circuit with SEL-TPRs indicating which string of turbines contains the fault.

Basic Insulating Plug (BIP) Without a Test Point

The SEL-TPR has a model option for a BIP voltage reset boot. This model works for 600 A applications without a test point on the elbow or T-body. It receives power and resets from the BIP voltage and senses the fault current with three cable-mounted sensors.

SEL-TPR for BIP applications.

Specifications

General	SEL-TPR		SEL-TPR for BIP Applications
Power Source	Test point voltage		BIP voltage
Nominal Trip Ratings	60 to 1,200 A		1,200 A and 1,500 A
Trip Tolerance	±10%		±10%
Elbow Voltage Class	15 kV and 25 kV	35 kV	35 kV
Reset Voltage (L-N)	≥6 kV	≥7 kV	N/A
Reset	Automatic at minimum voltage		Automatic on restoration of primary voltage
Reset Time	3 minutes typical, dependent on system voltage		3 minutes typical, dependent on system voltage
Maximum Fault Current	25 kA		25 kA
Trip Response Time	1 ms (optional 24 ms with delayed trip)		24 ms delayed trip
Inrush Restraint Response Time	300 ms		300 ms
Elbow Style	200 A- or 600 A-class with test point		600 A-class T-body with BIP
Housing Material	Semiconductive EPDM rubber		Semiconductive EPDM rubber
Clamping Range	N/A		0.75" to 2.10" or 1.8" to 2.5"

Note: SEL-TPRs should not be used in applications where the phase sensor will be submerged for prolonged periods.

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