

# LINAM<sup>®</sup> UGFI

## Underground Fault Indicator



Reduce the duration of outages by streamlining underground fault locating

- Prevent false indication caused by magnetic interference from nearby cables with industry-leading adjacent-phase immunity technology.
- Simplify inventory with the universal clamp and a self-adjusting trip algorithm.
- Deploy with confidence in harsh underground environments—the UGFI is rugged, submersible, and battery-free.
- Install with a single hot stick on medium-voltage underground cables.



# Key Features

## Industry-Leading Adjacent-Phase Immunity

Proprietary adjacent-phase immunity technology prevents false indication by actively rejecting magnetic fields from nearby cables. The UGFI is immune to magnetic fields caused by fault currents up to 25 kA on adjacent phases at 10.2 cm (4 inches) center-to-center spacing.

## Secure Fault Detection

The UGFI fault detection algorithm is reliable and secure. In addition to the industry-leading adjacent-phase immunity, it can respond to switch-onto-fault (SOTF) events, adapt to inrush conditions to prevent false indication, and avoid false resets due to backfeed conditions.

## Flexible Fault Detection Thresholds

The self-adjusting AutoRANGER algorithm automatically selects the trip threshold based on a seven-day load current profile. This allows one device to be used across various applications, simplifying ordering, inventory, and installation. For applications requiring fixed trip thresholds, the UGFI can be ordered with a wide range of trip thresholds, from 25 A to 1600 A.

## Rugged and Submersible Design

Install with confidence in harsh environments like underground vaults. The UGFI is waterproof at depths up to 7.6 m (25 ft) and the polycarbonate housing and stainless steel cable clamp are corrosion-resistant. It meets and exceeds IEEE 495 testing standards for faulted circuit indicators.

## Line-Powered Functionality

The fault indicator harvests fault and load current to power all functions, including timed-reset and LED display options. This eliminates batteries entirely and reduces maintenance time and ownership costs.

## Current Reset and Timed-Reset Options

The UGFI offers multiple reset options. Order your device with a reset based on load current ( $\geq 1$  A), a fixed time duration (2, 4, 8, or 12 hours), or a combination of both for added flexibility.

## Simple SCADA Interface

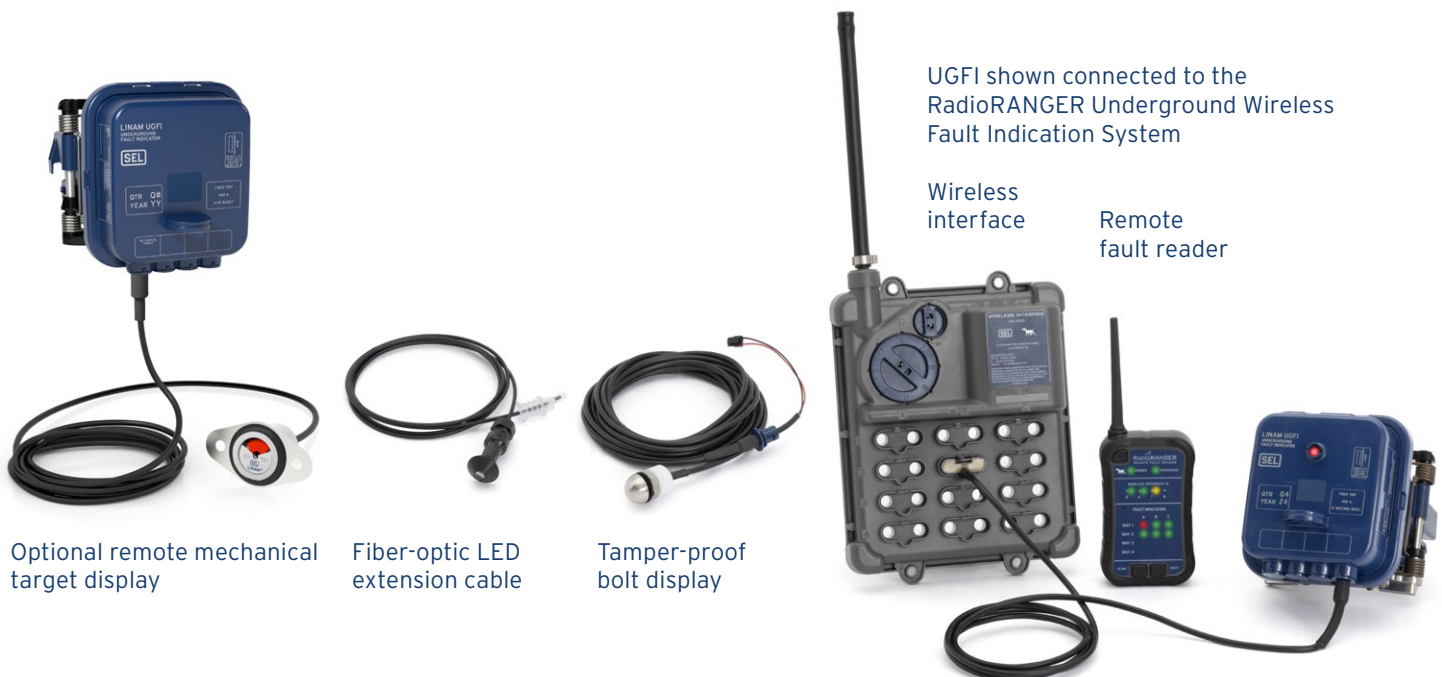
Use the auxiliary output contact to send the fault status through a remote terminal unit to SCADA.

## Multiple Display Options

Choose a reflective mechanical target or an LED for the built-in display. Remote display options include a reflective mechanical target display, a remote LED via fiber-optic cable, and a bolt display that is discreet, tactile, and tamper-proof.

## RadioRANGER® Remote Fault Indication

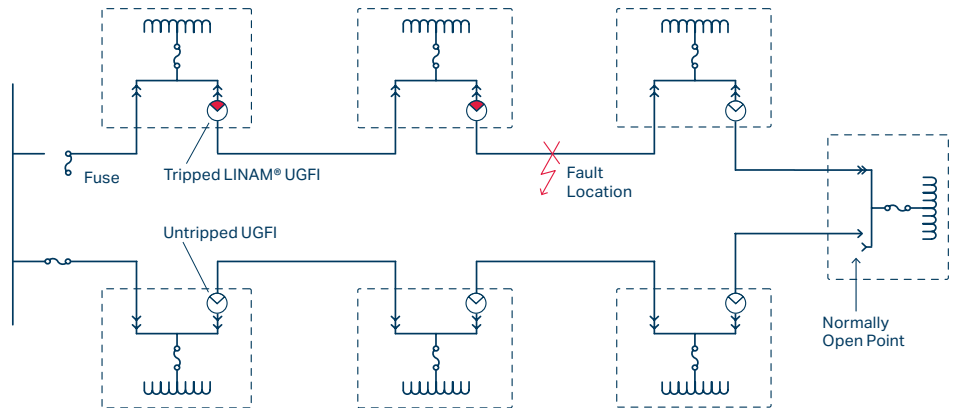
Read the fault status without accessing the vault or enclosure using the RadioRANGER Underground Wireless Fault Indication System. The RadioRANGER transmitter connects to the UGFI and uses a short-range wireless signal to communicate the fault status to a handheld receiver.



# Application Examples

## Pad Mount

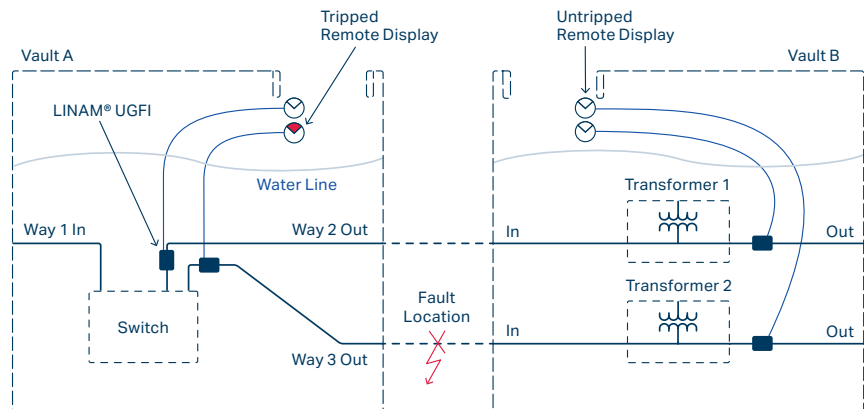
Install the UGFI in pad-mounted enclosures to identify faults in the underground cable between enclosures. Use it across all your pad-mounted applications, including transformers, switchgear, sectionalizing cabinets, and junction boxes.



The fault indicators identify the faulted cable section within a loop of pad-mounted transformers that contain a normally open point.

## Subsurface

Apply the UGFI to underground cables within subsurface vaults and maintenance holes to identify faulted cable sections. The UGFI is submersible, withstanding depths up to 7.6 m (25 ft). Remote display options make the fault status indication visible at a convenient location for workers. The RadioRANGER option communicates the fault indicator status to a handheld receiver, allowing personnel to read the status of a subsurface device at street level.



Apply fault indicators to outgoing ways of switches and transformers to determine if the fault is beyond the installed (or monitored) location.

# Specifications

| LINAM UGFI                                 |                                                                              |
|--------------------------------------------|------------------------------------------------------------------------------|
| Trip Thresholds                            | 25 to 1,600 A                                                                |
| Immunity From Adjacent-Phase Fault Current | 25 kA at 10.2 cm (4 in) on center between phases                             |
| Maximum Fault Current Withstand            | 40 kA for 10 cycles                                                          |
| Clamping Range                             | 15.24 to 66.04 mm (0.6 to 2.6 in)                                            |
| Current Reset Option                       | ≥1 A for as long as 10 minutes                                               |
| Timed-Reset Option                         | 2, 4, 8, or 12 hours                                                         |
| Timed Reset With Current Reset Override    | Timed-reset duration (2, 4, 8, or 12 hours) or ≥1 A (whichever occurs first) |
| Fault Detection Time                       | As fast as 1.5 cycles; 2 cycles typical                                      |
| Approximate Weight                         | 453.59 g (3 lb)                                                              |
| Temperature Range                          | −40° to +85°C (−40° to +185°F)                                               |
| Product Certification                      | IEEE 495—Guide for Testing Faulted Circuit Indicators                        |



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