LINAM® UGFI

Underground Fault Indicator

Reduce the duration of outages by streamlining underground fault locating

- Prevent false trips 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 tripping 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 tripping, 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 (≥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.

Optional remote mechanical target display

Fiber-optic LED extension cable

Tamper-proof bolt display

UGFI shown connected to the RadioRANGER Underground Wireless Fault Indication System

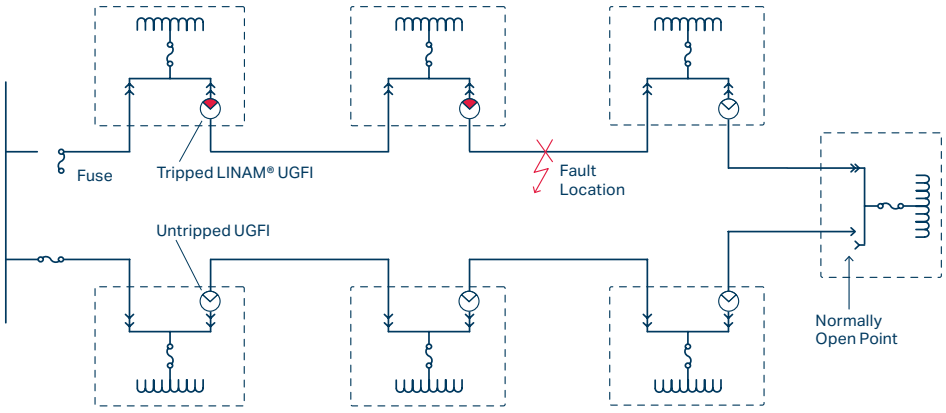
Wireless interface

Remote fault reader

Application Examples

Pad Mount

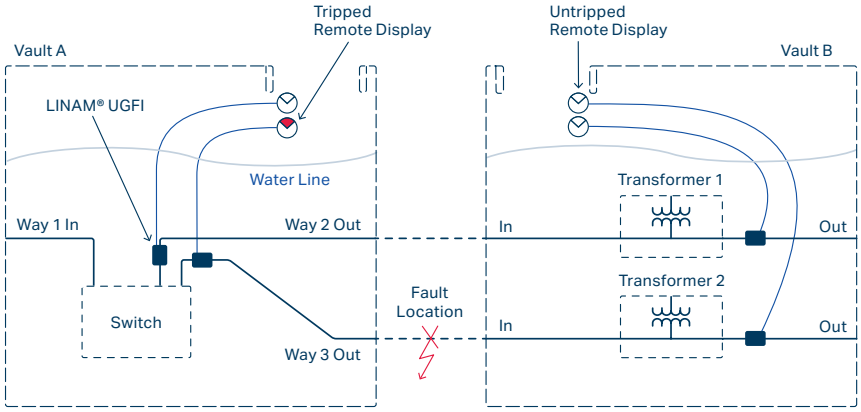
Install the UGFI in pad-mounted enclosures to identify faults in the underground cable between enclosures. Use it across all your pad-mounted applications, including transformers, switchgear, sectionalizing cabinets, and junction boxes.



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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