Grid Solutions

OPTIMHO LFZP REPLACEMENT

By MiCOMho P445, P443, P446

GE Vernova provides product upgrades and replacements for legacy devices, enabling users to take advantage of associated key benefits and enhancements.

The GE Vernova support teams will assist customers with plant-wide relay audits in order to help identify legacy products and recommend equivalent product upgrades. GE Vernova also offers advanced training services in protection, control, maintenance, communications and monitoring to ensure maximum benefit is achieved when upgrading.

Optimho LFZP – Static Distance Protection Relays

Optimho is a family of distance relays suitable for transmission, sub transmission and distribution circuits. It has been deployed on both overhead lines as well as underground cables.

The current portfolio of GE Vernova offers a wide range of options to meet your applications requirements. To take advantage of the latest technology and new developments in distance line protection, consider Optimho replacements from the MiCOM-MiCOMho range of products:

MiCOM – MiCOMho family

- P445 Compact distance protection, single circuit breaker requiring 3 pole autoreclose
- P443 Subcycle distance protection, single circuit breaker requiring 1/3 pole autoreclose
- P446 Subcycle distance protection, dual circuit breaker requiring 1/3 pole autoreclose

Key Benefits

- Easy to set with simple and advanced setting modes to cater for the simplest and more complex applications with the same look and feel of settings as Optimho
- Intuitive Programmable Scheme Logic PSL for building customized applications and schemes
- Accurate fault information provides for in-depth analysis; events and fault records and disturbance records
- Comprehensive measurements facilities: current, voltage, power, energy and frequency
- Superimposed principle algorithms are applied to achieve fast directionality, phase selection and power swing detection
- Comprehensive control and backup protection
- Can be applied on two CB applications such as breaker and a half with autoreclose and breaker failure independent per breaker (P446 model)
- Integral teleprotection via MODEM, fibre, or MUX channel

Replacement Benefits

- Expanded communication options station and process bus
- Enhanced diagnostic information
- Increased events recorder
- Expanded waveform capture
- Compatible zone characteristics
- Compatible channel- aided schemes
- Identical rack mounting and panel aperture
- Simple setting mode mimics Optiset
- Avoids the need of an external recloser

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Key Benefits (Continue from page 1)

- Numerous integrated communication protocols (Courier, IEC 60870-5-103, DNP 3.0, IEC61850) allow easy interfacing to substation control or SCADA systems. From simple wired serial buses, to Ethernet station and process bus architectures with IEC 61850 and HSR/PRP redundant station bus communications
- Flexible and programmable hotkeys, function keys and LEDs to allow for easy control, supervision and commissioning
- Inter-relay communications for reducing installation equipment and costs associated with it. Readily interfaces with end-to-end communications channels (56/64 kbps or E1 2 Mbps)
- Reduce the footprint drastically by using models with process bus IEC 61850-9-2LE
- Well proven with more than 12 years of experience in the field and multiple independent approvals
- The versatile hardware allows deployment with confidence and the PC tool, S1 Agile, makes for easy configuration, application and management of the installed base
- Quality Built-In (QBi) – Harsh environment coating is applied to all circuit boards to shield them from moisture and atmospheric contamination and transit packaging has been designed to ISTA standards

MiCOM P446 Dual Breaker Distance

- Subcycle, highly selective protection for overhead lines and underground cables
- Dual-breaker circuits requiring single pole/three-pole autoreclosing and independent synchrocheck supervision

Key Benefits

- High speed operation with superimposed phase selection guarantees tripping in less than a cycle for single and multiphase faults
- Multiple main protection elements reside in each relay: distance, delta directional comparison protection and directional earth/ground fault unit protection (DEF)
- Reduce the footprint drastically by using models with process bus IEC 61850-9-2LE with 40TE case size
- Five quad or mho zones for phase and ground distance protection
- Multi-shot autoreclosing with check synchronism suitable for breaker and a half, or mesh feeding with two sets of CT inputs per end. If an external LFAA102 recloser exists - rationalize two boxes to one

MiCOM P443 Subcycle Distance Protection

- Fast, highly selective protection for overhead lines and underground cables
- Single breaker circuits requiring single pole/three-pole autoreclosing and independent synchrocheck supervision

Key Benefits

- High speed operation with superimposed phase selection guarantees tripping in less than a cycle for single and multiphase faults
- Multiple main protection elements reside in each relay: distance, delta directional comparison protection and directional earth/ground fault unit protection (DEF).
- Five quad or mho zones for phase and ground distance protection
- Multi-shot autoreclose with check synchronism suitable for a single breaker. If an external LFAA101 recloser exists - rationalize two boxes to one

MiCOM P445 Subtransmission and Distribution Distance Protection

- Highly selective protection for overhead lines and underground cables with three phase tripping
- Single breaker circuits requiring three-pole autoreclosing and synchrocheck supervision. If an external MVTR recloser exists - rationalize two boxes to one

Key Benefits

- Five mho zones for phase and five quad or mho zones for ground distance protection
- Multi-shot autoreclose with check synchronism suitable for a single breaker
- Available in 40TE case for retrofit in a compact or vertical case footprint

For more information, visit
gevernova.com/grid-solutions

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