

# Product Upgrades & Replacement

## Upgrade Your Fleet to Gain the Latest Protection & Control Capabilities

GE Digital Energy provides the tools needed to upgrade your fleet of protection, control, automation and communications devices. By replacing legacy products with the latest advanced offerings, users can gain the benefits of hardware and technology advancements, communications capabilities, asset health diagnostics and fault recording and analysis capabilities.

With a dedicated service team, highly skilled and trained engineers and technicians can assist with facility wide audits to identify all devices in the field and recommend product upgrade strategies. With advanced training centers and flexible on-site or online training programs, customers can ensure maximum benefits are achieved when upgrading.

#### Universal Relay (UR) 7 Platform

Designed as a modular and highly flexible platform, the Multilin UR makes it easy to upgrade your existing fleet of devices. Upgrade from an older hardware version to the latest UR 7 platform to obtain all the latest in design, technology and protection capabilities. Simply replace some of your old modules with the new UR 7 compatible modules without having to replace the chassis or make new cut-outs panel doors.

#### 8 Series Platform

Raising the bar on protection and control capabilities the Multilin 8 Series provides the latest in protection, control, and communications capabilities all within a draw-out design. Designed to fit existing Multilin SR cut-outs, the Multilin 8 Series is the right choice for Feeder, Motor, and Transformer protection. Using GE's intuitive and industry leading ease-of-use software tools, setting file conversion is simplified, reducing system downtime and costs associated with upgrade projects.

### **Application Specific Upgrades**

From power plant to the power consumer, GE offers a wide range of upgrade solutions to ensure customers can take advantage of the latest in technology and protection and control capabilities. With GE's EnerVista software and hardware upgrade kits, transitioning to a more modern device is simplified, reduce time, effort and costs associated with upgrade and expansion projects.



#### Platform Upgrades

#### Multilin SR Relays



#### SR to 8 Series

For feeder, motor, and transformer applications, replace your SR with the latest Multilin 8 Series of devices. Upgrade to gain the latest in communication options and detailed asset monitoring and diagnostic capabilities, advanced functionality including high performance protection, extensive programmable logic and flexible configuration capabilities.

#### Multilin M Family Relays



#### M family to Multilin 3 Series

For feeder, motor, and transformer applications, replace your M or M II device with the latest Multilin 3 Series of protection and control solutions. Upgrade to gain the latest in communications options, asset monitoring capabilities, programmable logic, and flexible configuration options including drawout or non-drawout case options.

#### **Application Specific Upgrades**

#### **Generator Protection Solutions**



#### DGP Generator Protection Relay to G60, G30, 489, and G650

The DGP is a digital system that provides protection, monitoring, control, and recording functions for AC generators in a wide range of sizes, driven by steam, gas or hydraulic turbines. Upgrade to one of GE's more advanced Multilin protection & control devices, depending on your application needs including:

- Multilin G60 for generators of any size
- Multilin G30 for small to medium sized generators or for applications needing in-zone transformer protection
- Multilin 489 for primary, backup and co-generator applications with 25, 50, or 60 Hz synchronous or induction generators
- Multilin G650 for distributed generation management where distributed I/O is required to interact with the prime mover control system



#### LPS-O™ Generator Backup Protection to D60 or G60

LPS-0 provides backup protection for generators and transmission lines, offering single or three phase tripping capabilities. Upgrade to GE's latest UR Platform for Line Distance or Generator protection, depending on the application. Take advantage of the latest communications standards by digitizing substation signals and communications through IEC 61850 Process Bus.

- Multilin D60 Line Distance Protection System
- Multilin G60 Generator Protection System

Go online for the full listing of Multilin Protection & Control product upgrades GEDigitalEnergy.com/Multilin/upgrades

#### **Transformer Protection Solutions**



#### Line & Bus Protection Solutions

#### DTP Transformer Protection to T60, T35

The DTP offered high-speed differential and backup instantaneous differential three-phase protection for power transformers with two, three or four windings. Upgrade this relay to GE's latest Multilin UR family, either the T60 or T35 Transformer Protection Systems, depending on the application requirements.

- Multilin T60 Transformer Protection for high-speed, 2 to 6 winding transformer applications
- Multilin T35 Transformer Protection for cost effective differential protection for transformers with up to 6 sets of CTs





ALPS digital protection relay provides distance protection for HV or EHV transmission lines. It has been applied on or adjacent to series compensated lines and for single of three phase tripping applications. The Multilin UR family of line and distance protection devices offers more capabilities and flexibility to meet specific application requirements.

- Multilin L90 Line Differential System Line protection system with segregated line current differential and complete distance protection
- Multilin L60 Line Phase Comparison System delivers sub-cycle phase comparison and distance protection
- Multilin D90Plus Line Distance Protection System Sub-cycle line distance protection system and bay controller
- Multilin D60 Line Distance Protection High-speed transmission line protection with flexibility for three or single pole tripping
- Multilin D30 Line Distance Protection System cost effective, three pole primary and back-up distance protection

#### LPS-D Transmission Protection to L90, L60, D90Plus, D60, D30



The LPS-D protective relay provided main or back-up distance protection of transmission lines, suitable for single or three phase tripping applications. The Multilin UR family of line and distance protection devices offers more capabilities and flexibility to meet specific application requirements.

- Multilin L90 Line Differential System Line protection system with segregated line current differential and complete distance protection
- Multilin L60 Line Phase Comparison System delivers sub-cycle phase comparison and distance protection
- Multilin D90<sup>Plus</sup> Line Distance Protection System Sub-cycle line distance protection system and bay controller
- Multilin D60 Line Distance Protection High-speed transmission line protection with flexibility for three or single pole tripping
- Multilin D30 Line Distance Protection System cost effective, three pole primary and back-up distance protection

#### BUS1000/2000 Busbar Protection to B90, B30, B95Plus

The BUS1000/2000 was a solid state, high-speed protection system for phase-to-phase and phase-to-ground faults on busbar installations of any voltage. The Multilin UR and URPlus families offer the most up-to-date capabilities for low impedance busbar differential protection.

- Multilin B90 Low Impedance Bus Differential System Comprehensive and scalable bus and breaker fail protection for LV, HV, and EHV busbars for upto 24 feeders
- Multilin B30 Bus Differential System Cost effective bus protection and metering for up to six feeders
- Multilin B95<sup>Plus</sup> Bus Protection System Distributed low impedance busbar protection system utilizing the HardFiber IEC 61850 process bus technology

#### Feeder & Breaker Protection Solutions



#### DFP100/200 Feeder Protection to F60, F35, 850

The DFP100/200 was a digital relay that provides distribution feeder protection, control, metering and monitoring. The DFP200 provided comprehensive protection functions including a high impedance fault detection function that distinguished between a downed conductor and other arcing faults. GE's feeder protection solutions offer significant advancements for feeder protection applications including Hi-Z protection, applications with multiple feeders, and the latest in high reliability and redundant communications capabilities.

- Multilin F60 High performance feeder protection in a modular design for high impedance fault detection
- Multilin F35 Feeder protection and power metering for up to six feeders in one integrated device
- Multilin 850 Primary or back-up protection for underground or overhead medium voltage feeders in industrial or distribution utility applications in a drawout design



#### DBF, DBT, DRS Breaker Failure, Supervision and Recloser to C60, C90Plus

The DBF breaker failure relay provided phase and ground backup protection. The DBT provided supervision to ensure integrity of the breaker's tripping and closing coils. The DRS provided both single and three pole reclosing for one or two breakers. Replace these with GE's latest UR or UR<sup>Plus</sup> family of Breaker Protection or flexible automation controllers.

- Multilin C60 Breaker Protection System integrated breaker monitoring and control for substation automation, delivering fast, deterministic execution of programmable logic
- Multilin C90Plus Automation Control System powerful automation controller with the ability to provide a substation alarm concentrator, annunciator, control, and breaker protection and monitoring, all in a single device



#### Electromechanical to 3 Series Relay

Replace your single function IAC time-overcurrent, IFC Time-overcurrent, SLR Reclosing relays, ACR reclosing relays and MDP digital Time-overcurrent relays. GE's advanced digital and multi-function microprocessor relays provide the latest in protection, control, automation, metering and communications, all within a single device.

 Multilin 350 Feeder Protection System – intuitive circuit protection, feeder breaker control capabilities including auto-reclose, and detailed diagnostic capabilities offered in a draw-out or non-drawout construction

**Motor Protection Solutions** 



#### P4A, 139 or 239 Motor Protection to 339

GE's Multilin P4A, 139 and 239 Motor Protection relays offered protection of three phase AC motors. GE's latest family of relays offer unparalleled protection, control, automation, diagnostics and communications capabilities in a compact drawout or non-drawout design.

 Multilin 339 Motor Protection System – Intuitive, comprehensive motor management for medium voltage AC motors in industrial applications

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