

GE
Industrial Solutions

Aftermarket Solutions

Product Portfolio



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imagination at work



At GE we service the electrical distribution equipment that keeps industrial operations powered and productive. From substation to the power panel, we meet the needs of manufacturers, processors, and utilities of every kind.

We deliver Aftermarket Solutions that employ the latest technology, while keeping safety as the central concern. Whether you need product upgrades and modifications, safety enhancements, or obsolete equipment re-engineering, we have solutions for your switchgear, switchboards, motor control centers, busway, panelboards, breakers, and more.

Our North American Aftermarket Team is dedicated to supporting customers through the latest innovations and services, while relying on our extensive GE legacy product knowledge. Our experienced team manages your projects to make sure commitments are met and plant uptime is maximized.

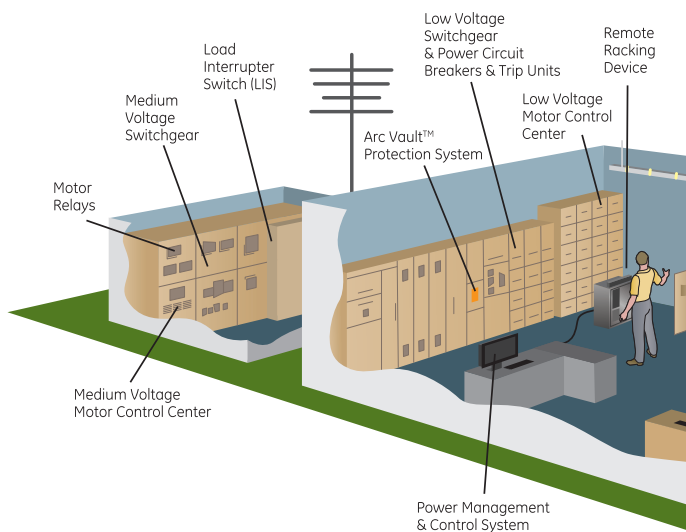


We work with you to extend the life and usefulness of your equipment, and to preserve your equipment investment.

Our support team is backed by complete web based product literature, product and services training, and Extended Warranty Programs and Long Term Service Agreements.

We strive to offer the best solutions for existing electrical distribution systems. That's why our Aftermarket Solutions are the first choice by customers based on the quality of our products and services.

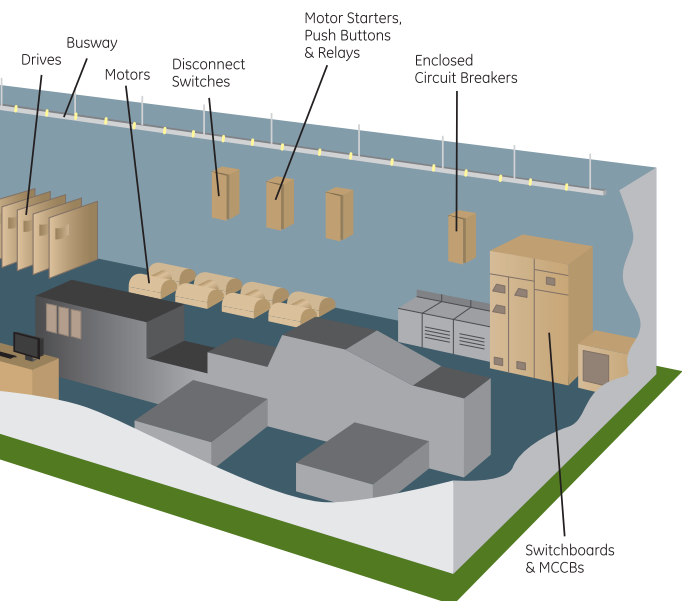
Our Vision: To provide the best Aftermarket Customer Solutions for existing electrical distribution systems, utilizing GE technology and safety advancements.



Experts in a wide array of equipment

“Electric” has always been a part of the GE name. Today, our applications for this energy resource are nearly endless. Our deep portfolio of electrical components, systems, and services speaks to the lasting necessity of the industry we helped to invent.





GE remains at the forefront of innovation to improve safety and power system optimization. Our trusted services and expertise can help keep your plant and people safe and productive.

Any weakness in the electrical distribution system can quickly cause injuries, damage gear, or disrupt your business. GE technicians will be onsite to ensure optimal design, code compliance, and risk reduction throughout the facility.



EntelliGuard® R Retrofills

Overview

EntelliGuard® R Retrofill provides a streamlined solution to update your legacy circuit breakers with a new EntelliGuard® G Breaker, to give your existing switchgear a new lease on life. The EntelliGuard® R offers a means to increase

reliability and enhance the protection of your existing electrical system. In addition to providing a host of new features, the EntelliGuard® R Retrofill solution also offers the option to include the EntelliGuard® TU Trip Unit for both arc flash protection and selectivity at the same time.



EntelliGuard® R Retrofills

Features

- Remote racking using the standard EntelliGuard® G racking device
- Trip unit and all indicators visible through the door
- Through-the-door racking
- Single finger cluster design
- Easy field wiring of Retrofill with GE provided AS-IS drawings
- Pre-punched doors available with or without holes for pilot lights and RELT switch for all stack widths
- AK Retrofills utilize the EntelliGuard® G lifting bar
- Increases short circuit rating on AK25 and AKR30S while maintaining UL approval
- Available for GE and OEM built equipment

Benefits

The EntelliGuard® R Retrofill can provide savings right from the start because it makes the most of your existing equipment. Since it is 100% interchangeable with GE breakers, it provides:

- Minimized exposure to arc flash or electrical shock
- Less heat generation and a solid, reliable connection when compared to designs with finger clusters on both the cassette and breaker
- Lower maintenance breaker due to high quality modern mechanism
- Lessened exposure to electrical shock or arc flash
- Minimized shut down time during replacement because of little to no cubicle modifications
- Interfacing with the original cubicle secondary disconnects, position switches, and neutral disconnects
- Compatibility with shutters in existing breaker cubicles
- Secondary disconnect wiring connection with no modifications to your switchgear

Selectivity and Safety

Overview

Instantaneous – Zone Selective Interlocking (I-ZSI)

EntelliGuard trip units allow multiple layers of large circuit breakers to operate as a system. With small overloads or large faults, each circuit breaker will operate or act as backup only when needed. GE capability provides the fastest interlocked protection in the industry. I-ZSI offers both instantaneous protection and selectively, regardless of the size of your system or main circuit breaker.

Wave Form Recognition (WFR)

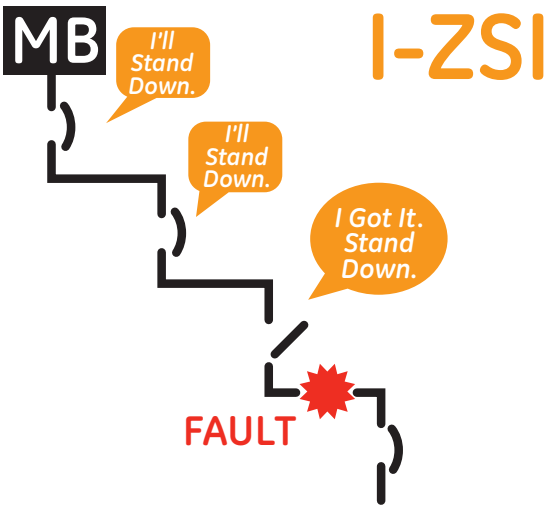
An instantaneous algorithm allows a feeder circuit breaker (above a panel or MCC that has current limiting fuses or circuit breakers) to be set very sensitive and still provide selectivity while providing instantaneous protection where you need it. What's more, the setting is not dependent on a complex coordination study; it simply depends on the device with which you are trying to be selective.



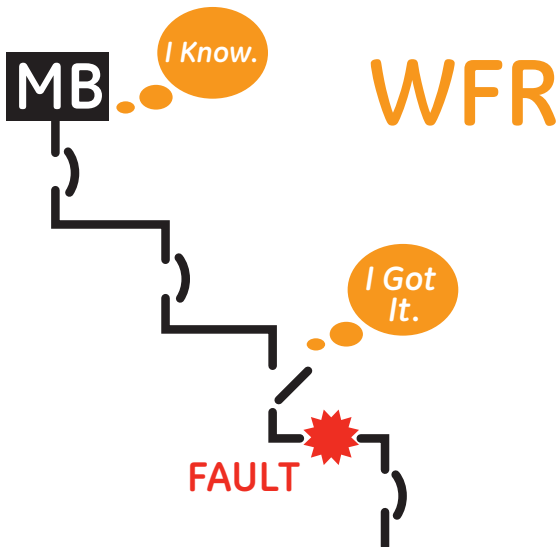
Reduced Energy Let-through (RELT)

Provides improved arc flash hazard mitigation during maintenance. Operated via a Remote Switch or Modbus Communications, with separate independent adjustable instantaneous pickup. Settings feature a positive status indication and deliver temporary extra-sensitive, faster Arc Flash protection (usually HRC1 or HRC2 protection levels).

Selectivity and Safety



These simple diagrams represent how the breakers communicate using I-ZSI or WFR to simultaneously provide selective coordination and arc flash mitigation.



Power Break I (PBI) to Power Break® II (PBII) Retrofills

Overview

In response to customer requests, GE introduced PBII engineered solution for the complete retrofill of both draw-out and fixed-mounted PBI circuit breakers that is effective and minimizes related customer downtime. Our offering includes application and design engineering services, state-of-the-art equipment with UL and cUL certification, and field engineering support of the installation work.



Power Break I (PBI) to Power Break[®] II (PBII) Retrofills

Features

- Compact, lightweight design
- Optional mechanical counter
- Padlock device standard
- Easy-to-reach ON/OFF buttons
- Padlockable door for added security
- Drop-in shunt trip, undervoltage release, and bell alarm (with and without manual lockout) modules
- Flush-mounted pump handle
- Choice of trip units, field upgradeable to EntelliGuard[®] Trip Unit
- UL and CSA Listed
- IEC 947-2 Certified

Benefits

This offering enables customers to retrofill their existing PBI circuit breakers with GE's next generation of circuit breakers, PBII models, that have upgraded features and functions. GE's solution provides:

- OEM knowledge and familiarity with the Power Break products
- Minimal downtime for retrofill work to be completed

Medium Voltage LIS (Load Interrupter Switch) Retrofits

Overview

GE's Medium Voltage LIS Retrofit solution provides reduced Arc Flash incident energy levels for customers on their existing MV equipment. This new solution retrofits a fixed mounted IEC SecoVac™ VB2 Plus vacuum circuit breaker (VCB) into the fused compartment of LIS.

Operating in three cycles, the fast-acting SecoVac VCB is superior to fuses and offers a new Arc Flash mitigating solution designed in response to Arc Flash Safety Standards. The SecoVac series VB2 Plus circuit breaker is a three-phase AC indoor breaker with 17.5kV rated voltage. especially suited for conditions that require frequent operation. In addition, the MV LIS Retrofit features GE Multilin relays, F35 or 350, and if required, customer-specified relays may be included. With modifications, GE can also provide retrofits to other manufacturer's Load Interrupter Switches.



Medium Voltage LIS (Load Interrupter Switch) Retrofits

Features

- Relay options for upstream and/or downstream communications
- Retrofitting into your existing LIS enclosure
- Separate low voltage door

Benefits

- The Medium Voltage LIS Retrofit solution delivers the safety and flexibility for your existing equipment, offering Reduced Arc Flash levels from the transformer down to the LV system
- Transformer protection via the latest relay technology (bus and transformer differential protection)
- Added transformer protection via an optional snubber application
- Minimal downtime for installation and commissioning (approx. 8-12 hours)
- Added reliability and quality of an IEC-rated, fast-acting, 3-cycle Vacuum Circuit Breaker with embedded pole technology
- Access to breaker operation without the need to open the high voltage compartment

EntelliGuard® Trip Unit Conversion Kits

Overview

GE has channeled its decades of trip system experience into the development of the EntelliGuard® TU Trip Unit, which incorporates advanced algorithms that enable arc flash protection and selectivity at the same time. The EntelliGuard® TU Trip Unit offers optimum circuit protection and system reliability simultaneously, with little or no compromise to either of these critical functions. With its Reduced Energy Let-Through Setting (RELT), the system protects at HRC1 or 2 for available fault currents as high as 100kA. Reliability and arc flash protection, in one package, at the same time, all the time. Our Conversion/upgrade kits include everything you need for a successful Trip Unit conversion.



EntelliGuard® Trip Unit Conversion Kits

Features

- AK, AKR, Westinghouse, ITE, Allis Chalmers Conversion Kits
- EntelliGuard® TU trip unit and rating plug
- Direct acting flux shifter with automatic reset
- Epoxy encapsulated high-accuracy current transformers
- Specially designed mounting hardware and wire harnesses with communication cable and RELT harness for easy upgrade later
- EPIC, RMS9, MVT+, MVT PM Upgrade Options
- Algorithms that enable arc flash protection and selectivity
- Non-volatile memory with continuous self-testing microprocessor
- Health Status LED to indicate normal operation, errors, pickup, trip
- Same form, fit, function as the popular MicroVersaTrip trip unit
- Upgrade and conversion kits are ANSI C37.59 design verification tested to ensure safe, reliable operation

Benefits

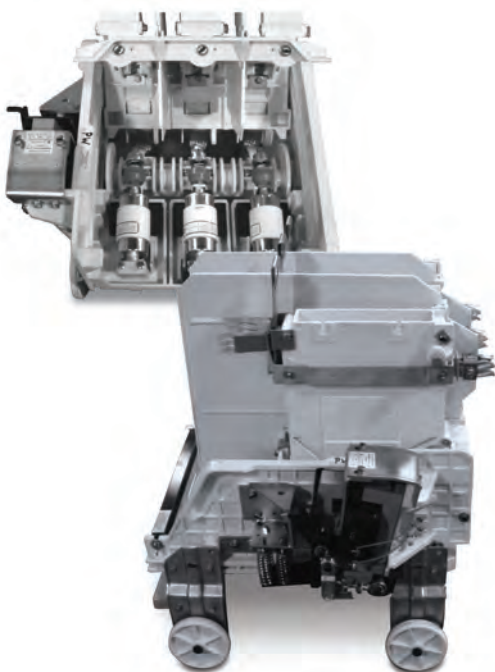
Our complete EntelliGuard® TU conversion kits help you to:

- Eliminate costly downtime due to nuisance tripping
- Improve electrical power system coordination and protection
- Permit easy upgrades to communicating Power Management Control Systems (PMCS), open Modbus RTU protocol
- Enable the implementation of RELT and Zone Selective Interlock Instantaneous to reduce arc flash energy levels
- Simplify upgrades to existing converted breaker

Limitamp Conversion Kits

Overview

Upgrades from original air break main contactors to vacuum interrupters are available either as complete roll-out/roll-in replacements, or as conversions completed by factory authorized service organizations.



Limitamp Conversion Kits

Features

- Fully interchangeable with air break contactors
- No replaceable arc vanes and arcing horns to maintain
- Uses same clip and bolted fuses as air break contactors
- Interrupters use low chopping current materials
- Latch contactors available from factory (no field conversion)
- Designed and tested to meet UL374 & NEMA ICS-3 Part 2

Benefits

- Quiet operation due to use of DC coils
- Long life with minimal maintenance
- Contained arc during interruption, even when interrupters fails to interrupt
- Fast and simple inspection of vacuum interrupter tip wear

Arc Vault™ Protection Systems

Overview

GE's innovative Arc Vault™ doesn't exhaust the arc flash, it extinguishes it. Arc Vault™ can stop an arcing fault in less than eight milliseconds, a fraction of the time that traditional systems need to stop a flash. Arc Vault™ sets the new standard for arc fault protection. Because it cuts off the energy at its source, Arc Vault™ is much more effective than traditional arc-resistant switchgear at minimizing the danger and controlling the damage of arc faults.



Arc Vault™ Protection Systems

Features

- Consists of an activation switch, a protective trip unit and a containment dome
- Activation switch can be set as part of a maintenance procedure to enable the system
- Will contain an arc fault in less than 8ms, resulting in incident energy in accordance with IEEE 1584 at 18" from the arc event of less than 1.2 cal/cm²
- The GE Arc Vault™ protection system can be retrofit without having to replace the existing low voltage equipment line-up
- Can be retrofitted onto existing GE or other manufacturers' low voltage equipment, including switchgear, switchboards and MCCs

Benefits

Stop arc flash in its tracks with GE's arc flash containment technology., Arc Vault™, to:

- Help reduce work-related injuries even when panel doors are open during routine maintenance
- Decrease stress on equipment due to an arc flash, cutting downtime to as little as a single day
- Reduce energy released by 63% or more compared to a bolted fault that would occur with a crow bar system
- Eliminate the need to install exhaust chimneys or plenums to direct the arc flash energy outside of the building
- Reduce building construction costs, when compared to traditional arc resistant switchgear
- Improve your overall system uptime when compared to traditional arc resistant switchgear

Remote Racking

Overview

With GE Remote Racking Devices maintenance and service personnel can rack drawout breakers in low voltage switchgear in and out remotely — from as far away as 30 feet — for the greater safety and peace of mind that's been available in medium voltage gear for years. GE's electric remote racking device connects easily to WavePro or EntelliGuard® breakers in Entellisys®, as well as AKD-10, AKD-20, and AKR switchgear.



Available for new lineups or retrofits. WavePro/EntelliGuard® (Entellisys®) Breakers require a modification kit for breakers above 2000A. EntelliGuard® G requires a steel tube modification to OEM cassettes. AKD-20 includes the steel tube. AKR requires a small breaker and door modification.



Remote Racking

Features

- 30 ft. cable allows user to be up to 30 ft. away from the breaker during the racking operation
- 4 ft. power cord with a 115V plug is easy to connect to an extension cord for control power
- Sliding latch provides easy connection to breaker
- Directional switch toggles for racking breaker in or out

Benefits

- Provides greater safety and peace of mind that's been available in medium voltage gear for years
- Less damage risk from not connecting correctly to breakers

Remanufactured MVT Trip Units

Overview

GE is extending the lifecycle of the no longer manufactured MicroVersaTrip Plus™ and MicroVersaTrip PM™ by offering a remanufactured MVT solution. GE's latest Trip Unit model is the Entelliguard® TU, offering improved selectivity and reliability. However, for those customers not yet ready to upgrade, GE offers Remanufactured MVT Trip Units to extend the lifecycle of the product for an additional five or more years. GE is committed to our customers through life-cycle support of legacy equipment with quality services and solutions meeting original specifications.



Remanufactured MVT Trip Units

Features

- Original GE parts
- Remanufactured MVT Trip Units meet OEM specifications, including new electronic boards and factory acceptance testing
- POWER LEADER™ communications network supported
- Complete replacement of all electronic circuit boards
- Fully tested to original specifications
- GE warranty

Benefits

Using the Remanufactured MVT Trip Units:

- Allows you to extend the lifecycle of your trip unit with service and remanufactured products from GE
- Provides identical fit since GE Remanufactured MVT Trip Units are a plug-and-play unit identical to your original unit in form, fit, and function
- Includes new electronic boards that are full tested to original manufacturer's standards
- Delivers GE quality with GE Remanufactured MVT Trip Units
- Provides proven repair techniques and service from the original manufacturer for your trip unit

Maintenance Parts

Overview

GE offers standard maintenance and replacement parts for all current and legacy products, including:

- Arc Chute Kits
- AKD Breakers
- PowerBreak Breakers
- Replacement and blank MCC Buckets
- Low-voltage Switchgear Parts

Maintenance Parts

Features

- Designed to GE OEM specs
- Easy-to-read metal instrument panels
- Expandable to handle increased loading and system changes
- Ranging from NEMA size 1 to 4, MCC buckets are available to fit 7700-Line, 8000-Line and Spectra Series motor control centers

Benefits

- Flexible section sizes for optimized footprints
- Each circuit breaker is located in a completely enclosed ventilated compartment with grounded steel barriers to minimize the possibility of fault communication between compartments
- Rollers and a guidebar provide easy and accurate drawout operation
- Insulated and isolated bus makes maintenance procedures touch-friendly to reduce the risk of arc flash

Contact Us

Replacement Parts

1-800-431-7867 or 1-800-GE-1-STOP

Repairs/Service

888-GE4-SERV or 540-387-8617

Questions

E-mail: aftermarket@ge.com



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