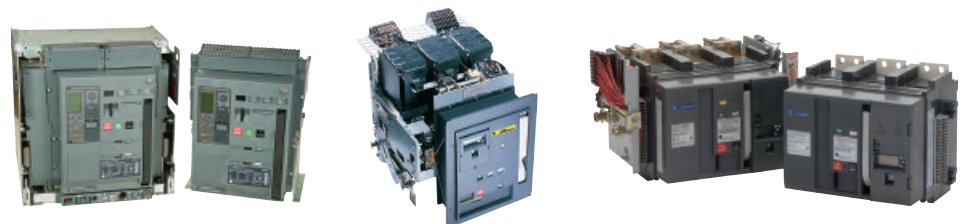


EntelliGuard[®] TU Trip Unit

Don't compromise arc flash protection for system reliability.



Now you don't have to choose between selectivity and arc flash protection.

GE delivers both, 24/7!

System reliability (selectivity) and protection are the key functions of any trip unit, and the EntelliGuard® TU delivers exactly that, along with the flexibility to address an array of power distribution needs.

Technology to enable simultaneous arc flash mitigation, selectivity and more: complete selectivity from medium voltage to a 20-amp 1-pole circuit breaker – and Instantaneous protection at every step at the current value you need for maximum arc flash protection

Instantaneous and ST Zone Selective Interlocking up to GE Multilin MV relays

Instantaneous Selective Instantaneous tripping all the way from low voltage branch circuit breakers to medium voltage substation feeders.

Instantaneous Zone Selective Interlocking (I-ZSI)^{1,2}

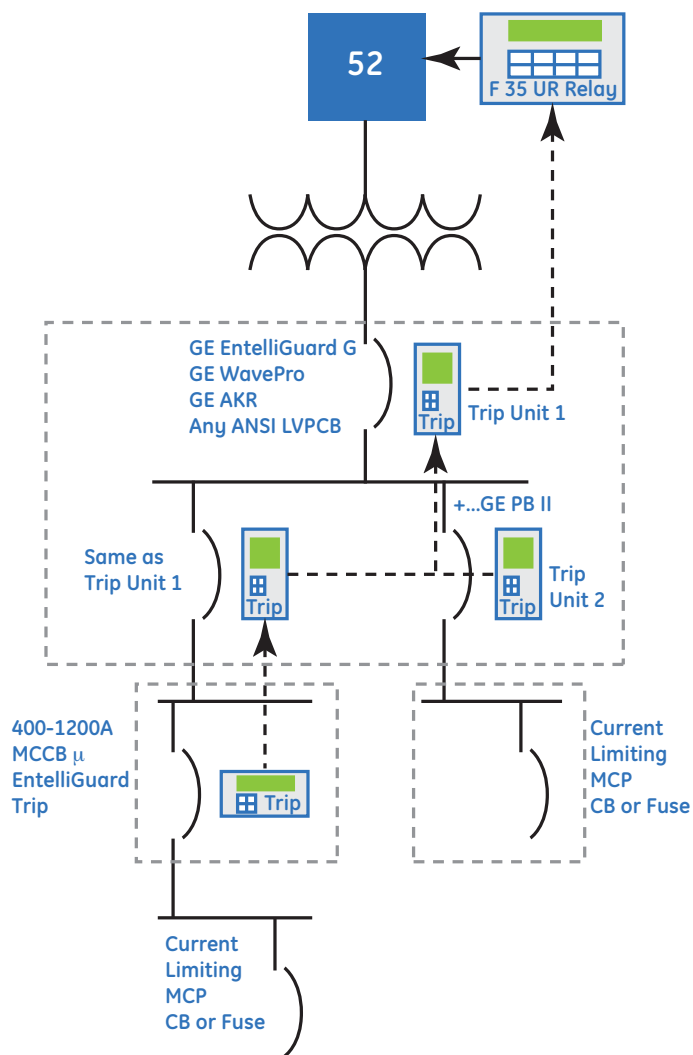
Sensitive and selective instantaneous pickups even in large mains and ties! **Zone selective interlocking from LV to MV** right across your transformer – even in the instantaneous range when used with GE Multilin's F35 universal relay – and to molded case circuit breakers as well.

Instantaneous WaveForm Recognition tripping (WFR)²

Sensitive and selective instantaneous pickups above current limiting circuit breakers or fuses.

Instantaneous Reduced Energy Let-Through with Positive Feedback (RELT)¹

Alternate instantaneous pickup that can be used for even faster and more sensitive protection on a temporary basis.



¹ZSI and RELT may require harnessing

²PB1 does not offer WFR and I-ZSI

Not all versions provide identical capabilities

A system-wide solution

Instantaneous Zone Selective Interlocking (I-ZSI)

allows multiple layers of large circuit breakers to operate as a system. With small overloads or large faults, each circuit breaker will *only* operate when needed and act as back up only when necessary. GE's ZSI capability include ground-fault, short time and instantaneous for the fastest interlocked protection in the industry. You can get instantaneous protection, selectively, regardless of the size of your system or main circuit breaker. And, with our selective *microEntelliGuard™* trip unit for molded case circuit breakers as small as 400A, you receive the same I-ZSI and WFR instantaneous as in a medium sized molded case circuit breaker.

Waveform Recognition 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, for example the setting required above the following devices is:

- 15-150A current limiting MCP 9,610A
- 250A current limiting circuit breaker 11,210A
- 400A class J fuse¹ 15,050A

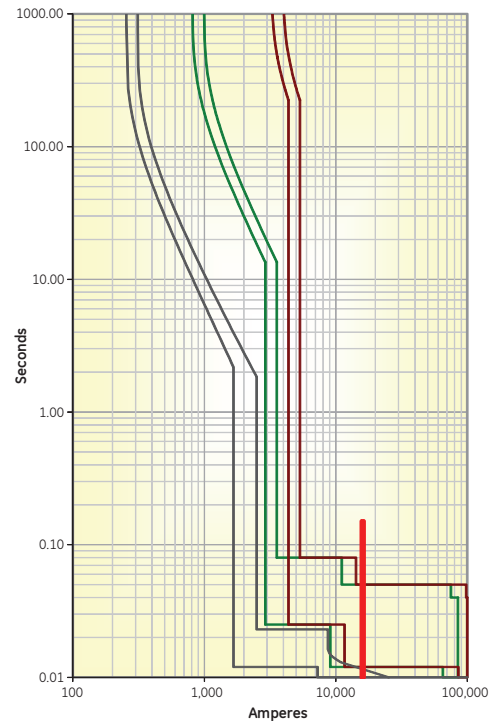
Selectivity up to 100kA in every one!

Reduced Energy Let-Through Instantaneous with Positive Feedback provides more arc flash protection flexibility and assurance. An even faster trip with a separate threshold as low as 1.5X sensor size that can be locally or remotely enabled with "positive feedback" so you *know* it's on when you need it and you *know* it is off when you don't.

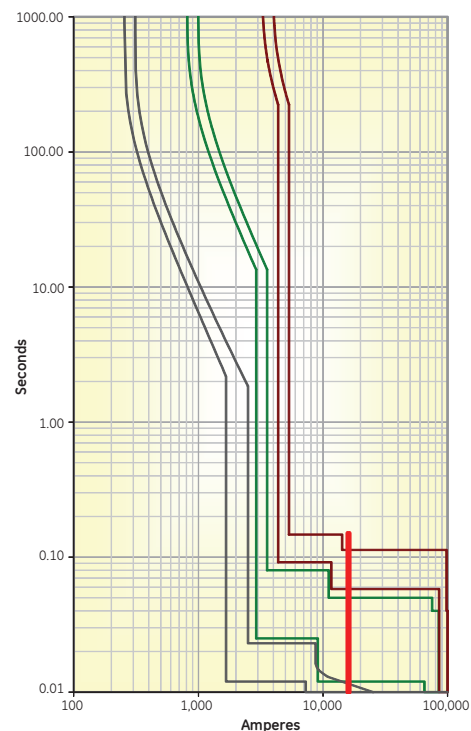
Why is this important? Simply because to have good arc flash protection, you need your circuit breaker to trip on instantaneous – to do that, it must be sensitive – and you need it to trip as fast as possible. That's how you best protect people from arc flash and equipment from faults. On the other hand, you need selectivity to protect your system against unnecessary tripping. **The GE EntelliGuard family of trip units, protective relays and molded case circuit breakers give you both, at the same time, all the time!**

Selectivity & arc flash protection simultaneously

Time-current curve for large main (3200A), medium feeder (800A) and small branch breaker (250A) showing selective instantaneous set below typical arcing current for an industrial system. Selectivity between feeder and branch provided by WFR instantaneous.



This is the same breaker line-up, but now the main has been forced to the selective backup timing by I-ZSI signal from feeder device.



¹400A class J TD fuse by Mersen, lower settings possible for lower fault current levels

The EntelliGuard family of trip units is available for multiple types of GE and non-GE circuit breakers

Capabilities vary slightly between circuit breakers but the most important capabilities are available in all of them including for non-GE ANSI low voltage power circuit breakers.

Standard features for maximum flexibility

- Highly flexible time current settings
 - up to 22 Long Time Delays
 - up to 22 Fuse shaped) Long Time
 - up to 14 Short Time Delay bands
 - 3 Short Time slopes (I^2T)... unique GE feature
- Selective Instantaneous algorithm (WFR)
- Ammeter
- Large backlit LCD screen*
- Breaker status indication
- Universal rating plugs – less plug inventory
- Status and event log (10 events)
- Date and time event stamping*
- LED health status indicator*
- Free set-up software
- Discrete I/O*
- Thermal memory, battery back-up
- Common interface across all versions

Optional full-function metering

- Current (Amps, kAmps)
- Voltage (Ph-Ph, Ph-N)
- Energy (kWh, MWh, GWh)
- Real power (kW, MW)
- Total power (kVA, MVA)
- Frequency (Hz)
- Demand (avg. kW, MW) and peak demand

Options

- Internal/external ground fault trip or alarm with 4 curves to select from (I^2T , I^4T , special selective GF curve and definite time slope)*
- Switchable ground fault trip / alarm (not UL Listed)
- Modbus RTU communications* (Profibus also available for EntelliGuard G)
- Waveform capture for harmonic analysis
- Full-function metering*
- Protective relaying*
- Zone Selective Interlock, GF, ST and Instantaneous*
- RELT – Reduced Energy Let Through*
- RELT and ground fault alarm harness kits
- Test Set GTUTK20

Optional protective relaying functions

- Undervoltage
- Overvoltage
- Voltage unbalance
- Current unbalance
- Power reversal
- Power direction setup

*Note: Some options require 24VDC additional hardware to enable Metering, Relaying, RELT, ZSI, Modbus to be added to the breaker, equipment cubicle and equipment sections.

Flexible: Anywhere / Anytime

- ✓ **Wide application:** Fits all existing large GE circuit breakers globally
- ✓ **Multi-standard application:** Passes and exceeds UL, ANSI, NEMA and IEC standards
- ✓ **Minimum spare parts:** Universal spare trip unit fits any GE EntelliGuard GCB!
- ✓ **Minimum spare parts:** Universal trip plugs any plug with rating works!
- ✓ **Maximum setting flexibility:** More curves, faster delays, more adjustability

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imagination at work