

EntelliGuard® TU Trip Unit

The last few years have tested the resourcefulness of the office furniture industry. Companies have been looking for ways to right-size their organizations, while leaving the door open for expansion as the economy regains its momentum. Thanks to EntelliGuard TU Trip Units, GE Energy was able to help a long-term industry client adjust to a smaller footprint, while significantly improving safety and minimizing cost and disruption.

The Challenge: Flexibility to Address an Array of Power Distribution Needs

Engineers at a large office furniture manufacturer in the Midwest knew that if they closed buildings at their manufacturing facility, they would have to adjust upstream power settings for load reconfiguration. Their existing equipment, however, was not up to the task. Range settings could not be configured low enough.

They considered a variety of approaches, from upgrading circuit breakers to replacing switchboards. They sought an economical solution that could be custom configured to accommodate a variety of loads, be implemented with a minimum of disruption, and increase protection and safety.

The Solution: The EntelliGuard TU Trip Unit

The furniture manufacturer consulted with field engineers at GE Energy. The GE team examined the existing circuit breakers and determined that they were mechanically sound. They suggested that the most cost-effective way for the company to achieve the tighter control on curves and settings it needed was to replace its old trip units with EntelliGuard TU Trip Units.

EntelliGuard TU Trip Units represented a dramatic advance in power and flexibility over the manufacturer's current equipment. They can provide complete selectivity and coordination across systems with a broad array of breakers, from medium-voltage substation breakers to 20-amp 1-pole branch breakers. And they do so while providing instantaneous protection at every step at the current value needed for maximum arc flash protection.

EntelliGuard TU Trip Unit Highlights

EntelliGuard TU Trip Units deliver outstanding selectivity and arc flash protection along with the flexibility to address an array of power distribution needs. It features:

- Instantaneous and ST Zone Selective Interlocking up to GE Multilin MV Relays
- Instantaneous Zone Selective Interlocking to allow multiple layers of circuit breakers to operate as a system.
- Instantaneous Waveform Recognition to enable feeder circuit breakers to be set at very sensitive levels and still provide selectivity.
- Instantaneous Reduced Energy Let-Through (RELT) with Positive Feedback to provide more arc flash protection and assurance.



case study

Opting to focus just on the trip units spared the furniture manufacturer the considerable expense of replacing circuit breakers or switchboards. In addition, by limiting the size of the change, GE was able to minimize the disruption required for the upgrade. The work was scheduled during the company's annual outage. In just eight hours, GE engineers replaced the trip units on four breakers and tested them.



By enabling the furniture manufacturer to achieve better coordination with upstream and downstream devices, the installation of the EntelliGuard TU Trip Units also enabled it to reduce its arc flash requirements from category 3 to category 1. In itself, this change reduced costs, increasing the productivity of employees who no longer wear hot cumbersome category 3 protective gear.

The Takeaway: A Strategic Choice

The office furniture company did not simply replace their old, obsolete trip units with advanced EntelliGuard TU Trip Units. It removed a real barrier to achieving the operational flexibility required to succeed in a highly competitive marketplace by enhancing its ability to right-size its facilities in response to changing economic conditions.

The entire process illustrates the value of GE's dedication to helping customers make decisions that help them meet their goals, extend the life of existing equipment, and take full advantage of their current capital investments.

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- *Arc flash requirements dropped from Category 3 to Category 1.*

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