GE Consumer & Industrial

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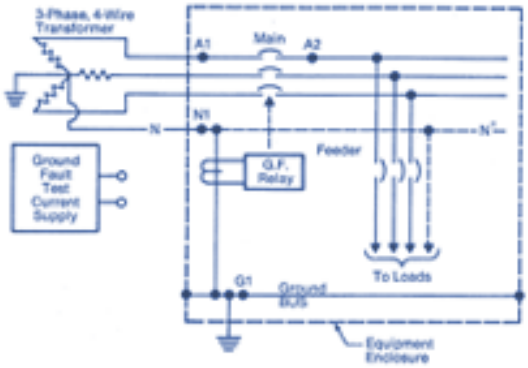
Equipment Ground Fault Protection – Do You Really Need It?



It's easy to design a system when cost is no object, the rules are clear and you're not responsible for its operation. But what if you live in the real world? In this issue we've taken on the tough questions surrounding equipment ground fault protection, like: When, consistent with the NEC, can we not include it in a design? How should it be applied to multi-source and separately derived systems? Is ground fault coordination possible if you only have GF protection on the main protective device? How should we approach issues of code interpretation? Can it be value-engineered?

As always, our objective has been to provide you new insights into this most important subject.

- The Editor

Coordinating Ground Fault Protection with Phase Overcurrent Protection

It was a dark and stormy night... actually 6:37am on the West Coast on a rainy winter morning. The local brokerage agency had just started its trading day. Unfortunately, moisture in the conduit system of the parking lot lighting was about to hit cable insulation that had been damaged during installation.

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Equipment Ground Fault Protection – Where It's NOT Required or Permitted

Equipment ground fault protection is a relative new kid on the block as far as circuit protection goes. Not required by the National Electrical Code (NEC) before 1971, it is now generally accepted to be an important part of the overall circuit protection package, with little debate as to its value or effectiveness. But having only a partial understanding of applying ground fault protection can result in added project cost, increased liability and defeating the very intent of the code.

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Avoiding GF Problems When Designing For Multiple Low Voltage Sources

The need for more reliable electric power in commercial and industrial applications has caused the design of low voltage distribution equipment to migrate from simple, single-ended load center unit substations to power systems with multiple utility sources, emergency and back-up generators, and uninterruptible power sources. The purpose of this article is to point out some of the problems associated with meeting the requirements of providing equipment ground fault protection on multiple-source low voltage distribution equipment, both switchgear and switchboards, and how to contend with them.

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Vinny's Bottom Line – A Look At Value-Engineering Ground Fault Protection

As a sales engineer covering the commercial construction market my customer base is mainly made up of electrical contractors who are always looking for the best price, the bottom line.

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Ask the Engineer

I have heard the terms "Ground Sensor" and "Residual" used with reference to ground fault protection schemes.

What do they mean?

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Insights

Many excellent technical application papers relating to grounding and ground fault protection have been placed in GE's library for your reference. To help give you quick access, click the links below.

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