



New Circuit Breaker Designs Installed in Existing Panelboards or Switchboards

Introduction

Schneider Electric continues to be an industry leader who enhances and introduces new circuit protection products and technology. Our priority is electrical safety, including the safe installation of our electrical products to protect your electrical system.

Panelboards and switchboards are manufactured and marked to ensure the appropriate circuit breakers are utilized with each panelboard. As technology evolves and enhancements are made to circuit protection, new circuit breakers are introduced to enhance electrical system performance. However, existing installed panelboards or switchboards will not be marked for use with these new circuit breakers. A number of questions may arise to ensure a safe electrical installation.

How do I determine if a circuit breaker can be installed and operated safely within a panelboard or switchboard?

1. Look for the marking on the panelboard or switchboard. If the circuit breaker type is marked on the panelboard or switchboard, then the enclosure has been evaluated with those circuit breaker types installed and the use of those circuit breakers is part of the Listing of the panelboard.
2. If the circuit breaker is not marked on the panelboard, contact the panelboard or switchboard manufacturer to understand if the circuit breaker can be installed and operated safely within the enclosure in question. Only the panelboard manufacturer can fully understand which circuit breakers are appropriate for the panelboard.

Can circuit breakers that are not marked on the panelboard be installed in a panelboard?

Answer: Maybe

The panelboard or switchboard manufacturer is the only entity that has the current and historical engineering data necessary to fully understand if a circuit breaker that is not marked on a panelboard can be installed and safely operated within that panelboard.

A specific example might include a Square D™ brand I-Line™ panelboard installed to serve a building in the 1980s. The facility is being expanded and new circuit breakers are now available and marked on new I-Line panelboards, but the new circuit breakers are not marked on the panel installed in the 1980s. Only Schneider Electric, as the manufacturer of the panel, can help you understand if the new circuit breaker can be installed in the original I-Line panelboards.

What about the Listing of the panelboard?

The Listing of a product is performed in accordance with the product standard in place on the date the panelboard left the factory. The Listing of a new circuit breaker and existing panelboard combination may fall outside the scope of the Listing. The panelboard or switchboard manufacturer is the only entity that has the engineering data necessary to understand if a circuit

Can I have a field evaluation performed by a third party to ensure the performance of the circuit breaker and panelboard combination?

breaker—that is not marked on a panelboard—can be installed and safely operated within an enclosure.

Remember, the goal is to understand and ensure the performance integrity of the circuit breaker and panelboard combination. Key items in understanding performance and safety issues include short circuit performance and thermal performance of the combination. Can a third party field evaluation establish an understanding of such key safety items? The field evaluation is probably not going to reveal any bus interface issues or enclosure integrity issues if a short circuit were to occur. The evaluation is likely not going to load the panelboard in a number of configurations to understand the thermal interaction impact with other circuit breakers in the field. The manufacturer is the only entity that has the engineering records and a full understanding of such performance characteristics from laboratory testing to ensure the panelboard and circuit breaker combination integrity is assured.

As our electrical infrastructure ages and new circuit protection designs are introduced to enhance electrical safety and system reliability, Schneider Electric encourages you as the designer, installer, or electrical inspector to seek support from the manufacturer of the panelboard or switchboard when contemplating the installation of circuit breakers that are not marked for use on the panelboard.

For More Information

Visit the **Schneider Electric North America Codes and Standards Electrical Shortz** website at:

<http://www.schneider-electric.us/support/codes-and-standards/codes-standards-technical-library1/product-documentation>

Schneider Electric USA, Inc.
1601 Mercer Road
Lexington, KY 40511 USA
1-888-SquareD (1-888-778-2733)
www.schneider-electric.us

“Electrical Shortz” are produced by the Schneider Electric North America Codes and Standards Group. These documents provide general guidance on a specific issue. Circumstances regarding particular installation issues may need further consideration.

© 2010 Schneider Electric All Rights Reserved