

What is a catastrophic failure?

A catastrophic failure in electrical systems is one that causes a dangerous product failure potentially exposing the homeowner to a safety risk.

Several examples might be the failure of a high energy consumption device in the home, such as an electric dryer, a motor short in the furnace or an electric water heater.

During a catastrophic failure, hot and conductive plasma gasses can be generated in the branch circuit breaker. Square D/Schneider Electric system testing helps to protect the homeowner from a wider failure of the whole load center due to the main and branch circuit breaker combination.

While rare, you cannot predict these "failures" and how interchangeable circuit breakers will function as the combination may never have been tested.

The Square D® series rated systems (circuit breaker and panel) exceed the minimum performance requirements established in the UL product safety standards as it is the Square D/Schneider Electric goal to give our customers the best products possible.

Is your warranty valid?

Your warranty protection is based on the performance of the QO® circuit breakers and load center combination. Because we have no control over the quality, specifications, or performance of look-alike QO or reworked circuit breakers, the warranty for the load center and circuit breakers may be voided if you use breakers other than genuine Square D®.

Why do QO circuit breakers offer the best circuit protection?

Plug-On Construction

Simple and easy installation

Visi-Trip® Indicator

Easily locate tripped circuit. Avoid turning off circuits accidentally

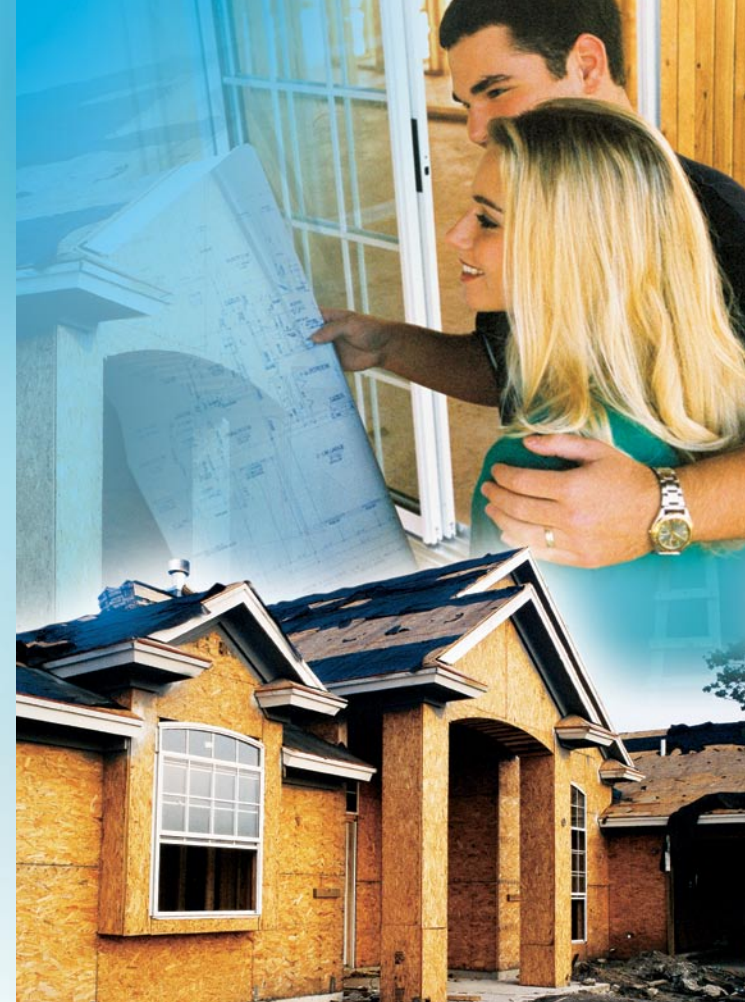


Qwik-Open® Mechanism

15 A and 20 A single pole breakers-trip in as little as 1/60th of a second

Square D Trademark

Know you're buying genuine QO circuit breakers from Square D



Know the Facts before you buy:

The risks of interchangeable circuit breakers

What is an interchangeable circuit breaker?

The concept of an "interchangeable" breaker is one perpetuated by manufacturers who claim that their breaker "fits" or is "interchangeable" with other brands of circuit breakers and may be directly substituted for the other brand.

The facts:

In reality, interchangeable circuit breakers do not exist. Electrical and mechanical characteristics vary from one breaker manufacturer to the next. These variations can only be accounted for by evaluating the circuit breaker in conjunction with the load center.* The load center design and markings maintain the "standard" regarding which breakers are acceptable for installation in that particular load center.

Circuit breakers and load centers are tested and listed as a system. Third-party testing and listing agencies evaluate the breaker or breakers as a part of the load center system as requested by the load center manufacturer. Circuit breakers, which are found to be acceptable, are then marked on the wiring diagram of the load center. This marking is the key to knowing which brand and family of breakers has been evaluated and found to be acceptable for installation.

The claimed "interchangeable" circuit breakers may not have been evaluated as a part of this system and, therefore, potential variations in design and performance may lead to unsafe conditions when used in the load center.

Square D - A Brand of Schneider Electric North American Operating Division

1415 S. Roselle Road
Palatine, IL 60067
Tel: 847-397-2600
Fax: 847-925-7500



* Note: Load centers are listed and marked as panelboards, but are commonly called load centers.

What are the myths?

Myth #1: They fit like the original.

While it may be possible to install an interchangeable circuit breaker, chances are, it does not fit the same way as the model or brand originally designed for that load center.

The electrical connection between the breaker and the panel is one of the most critical components of system testing. An improper electrical connection can have serious consequences and could jeopardize your safety.

Myth #2: Other manufacturers endorse “interchangeable” circuit breakers.

While some manufacturers and resellers of circuit breakers promote interchanged circuit breakers, a closer look at the wiring diagrams or labels on the load center door or cover made or sold by those companies reveal otherwise.

Even manufactures that promote “interchangeable” circuit breakers generally list only one brand or type of breakers for their panels. It seems that they are happy to sell their breakers for use in other manufactures’ load centers, but they don’t endorse the same practice for their own.

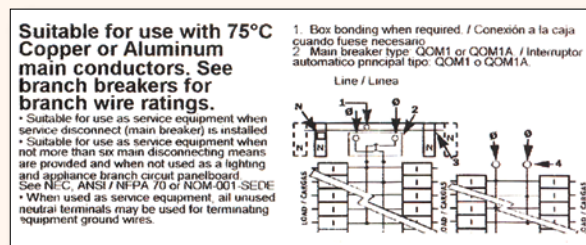
Does the NEC® cover this?

The NEC (National Electrical Code®) Section 110.3 (B) states:

“Installation and Use. Listed or labeled equipment shall be used or installed in accordance with any instructions included in the listing or labeling.”

This means that you must follow all of the labels and instructions on the load center, including the specific information about which circuit breakers are permitted to be installed.

Wiring diagram labels (pictured below) are typically located on the inside of the load center door, or inside the load center itself. This label is required by testing and listing standards to give the name or trademark of the manufacturer and catalog number or equivalent of the breaker which is to be installed in the load center.



Why interchange now and pay later?

When circuit breakers other than those listed in the load center instructions and labeling are used, the installation is a prime candidate for a “red-tag” from an electrical inspector or “write-up” from a home inspector as they follow the label instructions. This could delay your resale or occupancy. The inspector/reinspector must follow the requirements set forth in the NEC. “Red-tagging” means that you may have to replace an incorrect circuit breaker to comply with the load center label instructions.

The only method to ensure compliance with the NEC is to maintain the integrity of the listed load center markings and install only the circuit breakers listed on the load center product markings as it left the factory.

What are the risks?

Increased safety risk.

The primary purpose of installation codes and safety standards for products is to improve electrical safety and minimize hazards to persons and property. When an interchangeable circuit breaker is used, the result may be an untested combination of a breaker and load center that may undermine the goal of your electrical safety.

Reduce performance.

Manufacturers may choose to set levels of performance for the load center and breaker combination that are more rigorous than those required by the minimum standards. When an improper breaker substitute is made, the resulting performance of the system may be reduced.

Increased liability.

Promoting or installing interchangeable breakers may be in direct conflict with the instructions provided by the load center manufacturer, which could lead to increased liability for the reseller and/or installer. Their requirements from the load center manufacturer and the testing standards are clear. Following these requirements will help keep the “liability scale” from being tilted against you.

Loss of warranty protection.

The load center manufacturer’s warranty may be voided when equipment is not installed with breakers noted on the load center. This is usually clearly stated on the load center labels. When a manufacturer designs, tests and lists its load center and breakers as a unit, it controls the quality and performance factors of the system. When a different circuit breaker is installed, the quality and performance of the system could be affected.

Unintended warranty by reseller.

If the electrical distributor or retailer promotes interchangeability and provides a customer with an interchangeable breaker for a load center that was not listed for use in the load center and marked on its wiring diagram, he may have aided the customer in possibly voiding the load center warranty from the manufacturer. The customer leaves the store not realizing that using the interchangeable circuit breaker in his load center may void his warranty and affect the safe use of the his load center. Should there be a product failure along with subsequent damage, the distributor or retailer may be sued for damages. Many store owners are unaware of this risk, let alone realize that they may be encouraging potential violations of the code.

Is saving money worth the risk?

QO® look-alike or reworked circuit breaker can be purchased to save a dollar or two. But, as the photo of the damaged interchangeable circuit breaker demonstrates on the outside of this brochure – is it worth the risk?

If you can buy the best protection available for a comparable price, which would you choose to protect your home and family?

What should you do?

- 1. Buy the correct circuit breaker for the load center.** Look at the load center wiring diagram to determine which breakers are listed and use only those breakers.
- 2. Follow the NEC.** The NEC contains the minimum provisions considered necessary for your electrical system.
- 3. Don’t be misled.** Don’t let flashy displays and advertising claims mislead you. The load center wiring diagram is the ONLY source of information you should be reading when selecting circuit breakers.
- 4. Don’t risk increasing your liability and losing your warranty protection from the load center manufacturer.** Follow the instructions included with all products and requirements in the NEC to avoid putting yourself at risk.