

# SIEMENS

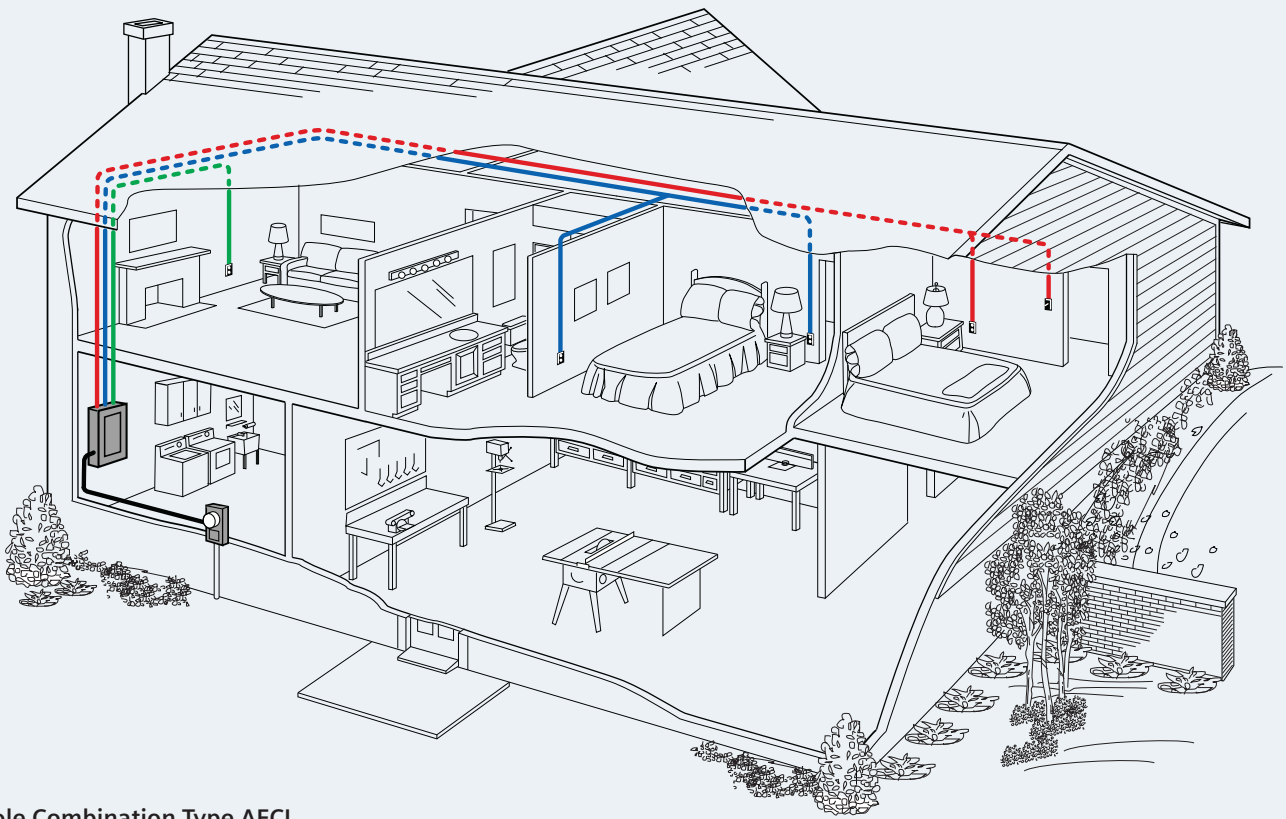
*Ingenuity for life*



## Two-pole Combination Type AFCI

Save money in wiring cost and  
installation time

[usa.siemens.com/afci](http://usa.siemens.com/afci)



1-pole Combination Type AFCI

## Two-pole CAFCI conforms to recent NEC®

Siemens Combination Type Arc Fault Circuit Interrupters (CAFCI) represent the latest technology that provides maximum available protection against the effects of arcing faults. Specifically, the advanced semiconductor technology utilizes proprietary components designed to detect and react to the unique characteristics of arcing while maintaining a high level of reliability. This reliability is ensured by the detailed design and verified by extensive testing.

The Combination Type Arc Fault Circuit Interrupter (CAFCI) was introduced to the market in 2007. Similar to the single-pole, the new two-pole CAFCI conforms to the 1999 through the 2008 National Electrical Code (NEC®). It also features Siemens exclusive troubleshooting LEDs which provide a valuable analysis tool to help electricians pinpoint the type of fault that causes the breaker to trip.

The two-pole CAFCI is intended for a different use than most two-pole circuit breakers. This CAFCI is intended to allow contractors to use multi-wire branch circuits (commonly known as "shared neutrals") which helps save on installation costs. It is intended for use on two single-pole, 120Vac

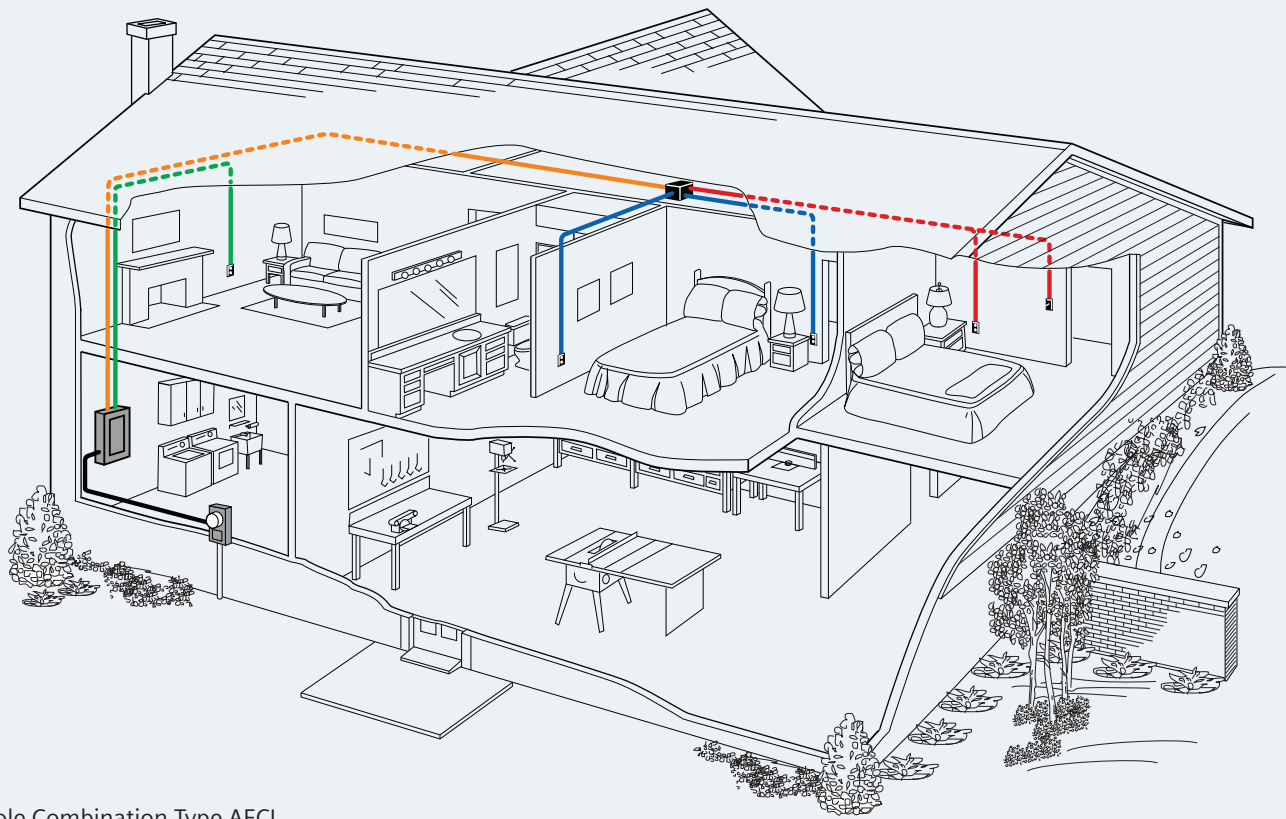
circuits. In fact, at the time of this print, there is not even a safety standard written that defines the requirements for AFCIs in 240V applications.

### Saving wiring cost and installation time

The two pole CAFCI is designed like two single-pole CAFCIs with one significant exception. When using a single-pole CAFCI, a dedicated neutral is required for each circuit. A two-pole CAFCI allows electricians to share neutrals between the two circuits fed by the breaker. As a result, electricians can save money in wiring costs and installation time.

The house cut-away images above help outline the wiring differences between two single-pole CAFCIs and one two-pole CAFCI. In order to wire the two bedrooms upstairs with two single-pole devices, there must be two dedicated wire runs from the load center to each room (Example: two runs of either 12-2 or 14-2 NM-B cable).

When wiring these same rooms with a two-pole CAFCI, only a single wire run is needed for the run from the load center to the upstairs area (Example: one run of 12-3 or 14-3 NM-B cable). Then the circuit is split into separate circuits to cover each bedroom separately (example: two sets of 12-2 or 14-2 NM-B cable). Running only one 3-wire with ground cable (i.e. 12-3 NM-B) instead of two 2-wire with ground cables (i.e. 12-2 NM-B) creates a cost savings in wire consumption. Using fewer cables also results in reduced installation time, creating an even better savings scenario.



2-pole Combination Type AFCI

### 2-pole troubleshooting features

Siemens features unique trip indicators on each AFCI product, providing a valuable analysis tool to indicate whether there was an arc fault, overcurrent, or short circuit. These indicators are in the form of LEDs that appear near the push-to-test (PTT) buttons of the breaker. The LED indications will appear for five seconds each time the AFCI is turned "ON" up to thirty days after the last trip.

- One LED will be illuminated if the last trip was a result of an arcing fault. The leg on which the arcing fault was detected can be determined based on which single LED was illuminated.
- No indication will be displayed if the CAFCI trips as a result of an overcurrent or short circuit condition.

The last known trip indication can also be cleared from memory to assist with verifying resolution of the problem by following this simple process:

1. Turn the AFCI to the "OFF" position.
2. Press and hold PTT button(s).
3. Turn the AFCI to the "ON" position.
4. Release PTT button(s) within 3 seconds.

### Thoroughly tested

With a 160 year history of engineering and innovation, Siemens strives to develop products that provide increased levels of safety. The two-pole Combination Type AFCI is another example in which Siemens is using advanced technology to ensure fit, form, and function for customers. Both performance and reliability are ensured by the technology implemented. This technology has been thoroughly tested by third-party laboratories and in the field.



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