



1 AFCI 5 kinds of protection

Combination Arc Fault Circuit Interrupters



imagination at work

Whose fault?

Electrical fires in homes break out around 70,000 times each year in the U.S. alone. Many result from arc faults.

Arc faults are unintended electrical arcs that may ignite combustible materials in the home. Four types of arc faults may occur: line-to-line, line-to-ground, line-to-neutral, or a series arc fault, which is arcing over a gap within a single wire. They arise from a number of situations, including:

- damaged wires
- receptacle leakage
- neutral leads pinched to grounded metal box
- worn electrical insulation
- wet connections or conduit
- loose electrical connections
- shorted wires
- wires or cords in contact with vibrating metal
- overheated or stressed electrical cords and wires
- misapplied/damaged appliances

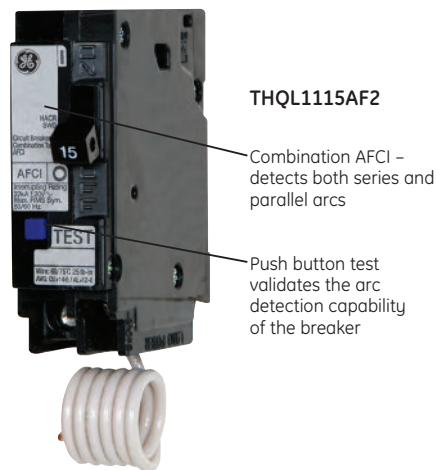
GE combination AFCIs deliver 5 kinds of protection

An arc fault circuit interrupter (AFCI) detects arc faults and de-energizes the circuit before they can start a fire. And GE combination AFCIs offer 5 kinds of protection.

1. **Parallel protection** – direct contact of two wires with opposite polarity (example: damaged extension cords)
2. **Ground protection** – arc between a single conductor and ground (example: improperly installed wall receptacles)
3. **Series protection** – arc across the break in a single conductor, which progresses to a ground or parallel arc (example: cable pierced by a nail from a wall hanger)
4. **Overload protection**
5. **Short circuit protection**

These combination AFCIs electronically identify unique current and voltage characteristics of all arc faults and de-energize the entire circuit when one occurs.

- **Fulfills 2008 National Electric Code** requirements for all dwelling unit family rooms, dining rooms, living rooms, libraries, dens, bedrooms, sun rooms, recreation rooms, closets, hallways, or other rooms of that nature.
- **Push button test** validates the arc detection capability of the breaker
- **Protects the entire circuit** with an easy plug-in breaker design
- **A combination AFCI** that is able to test series and parallel arcs at a very low current level
- GE is one of the few companies to offer **AFCI in a 1 inch standard breaker** package
- **Fulfills UL1699, Feb 2008**



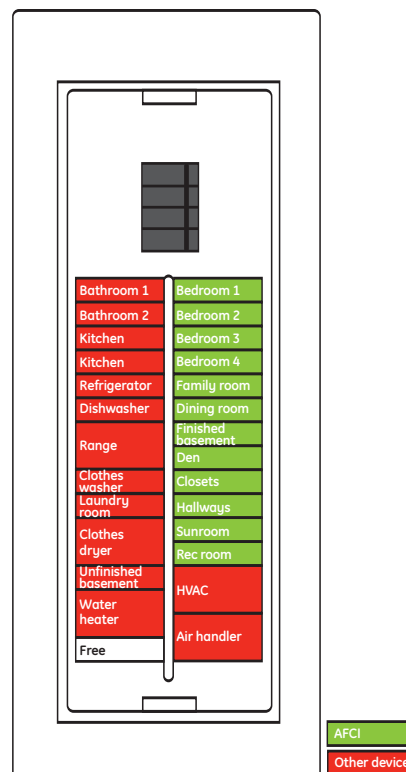
Circuit selection for combination AFCIs

Think of this diagram as the layout of a typical 32-circuit load center. Circuits for the types of areas requiring AFCI protection are in green. Those not appropriate for AFCIs are in red.

Specifications

The 2005 National Electric Code (NEC®) has mandated that Combination Arc Fault Circuit Breakers (AFCI) be used in bedroom circuits as of January 2008. The 2008 NEC expands the use of combination AFCIs to all single phase, 15- and 20-amp non-ground fault circuits supplying power to dwelling areas, including family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sun rooms, recreation rooms, closets, hallways or similar rooms.

2008 and earlier NEC versions are adopted by each state and their local municipalities. For more information related to your state's adoption of combination AFCIs, visit www.afcisafety.org. Choose the GE AFCI that matches your requirements and your state's code.



Amp Rating	In states on 2002 NEC or earlier		In states on 2005 NEC or later	
	Interrupting rating		Interrupting rating	
	10KAIC	22KAIC	10KAIC	22KAIC
15A	THQL1115AF	THHQL1115AF	THQL1115AF2	THHQL1115AF2
20A	THQL1120AF	THHQL1120AF	THQL1120AF2	THHQL1120AF2

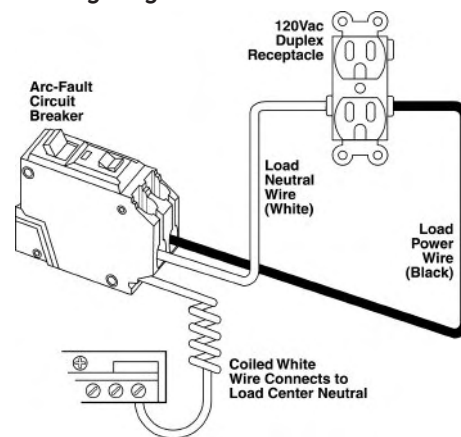
Product specifications

- Wire size 14-10 AWG 60/75°C Cu/Al
- 1" module per pole – for use in all GE PowerMark™ Load Centers and A-Series™ Type AL Panelboards

Standards and approvals

- UL Listed (Molded Case Circuit Breakers) UL 489
- UL Listed (Arc Fault Circuit Interrupters) UL 1699
- CSA Listed (Molded Case Circuit Breakers) CAN/CSA-C22.2 No. 5.1, 1 Pole Only
- CSA Listed (Interim Requirements for Arc Fault Circuit Interrupters) TIL No. M-02, 1 Pole Only

Wiring diagram



Information provided is subject to change without notice. Please verify all details with GE. All values are design or typical values when measured under laboratory conditions, and GE makes no warranty or guarantee, express or implied, that such performance will be obtained under end-use conditions.

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