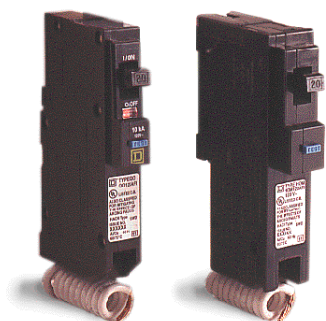


# Arc-D-tect™ Arc Fault Circuit Interrupters



A technology breakthrough focused on safety.

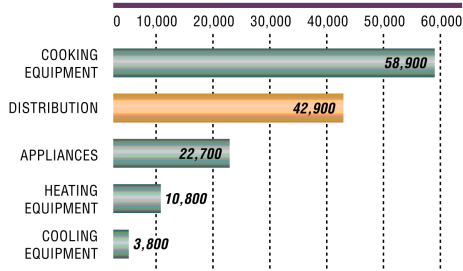
Square D is committed to safety in residential electrical systems. In 1955 we introduced the QO® circuit breaker, which redefined the standard for electrical protection in residences. Electrical safety around the home took another leap forward in 1971 when Square D utilized new electronic technology to introduce the industry's first ground fault circuit interrupter (GFCI). And in 1994, we began field testing the first prototypes of a major technology breakthrough... arc fault circuit interrupters.

News of critical importance to every household.

On a typical day in the U.S., fires of an electrical origin damage more than 400 homes (155,000 a year), sometimes causing injury and death. A significant portion of these fires result from arc faults, which occur when electrical products or wires are damaged, aged, or improperly used. Arcing generates high intensity heat and expels burning particles which can easily ignite combustible materials.

## Fires of Electrical Origin\*

155,000 Total Electrical Fires  
451,000 Total Residential Fires From All Causes



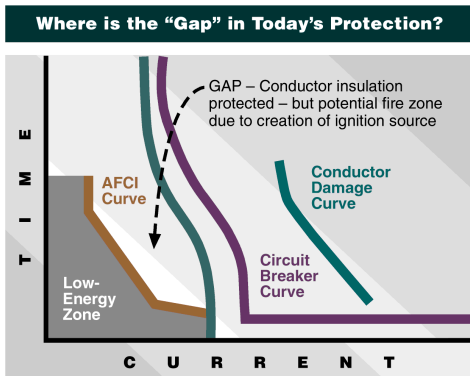
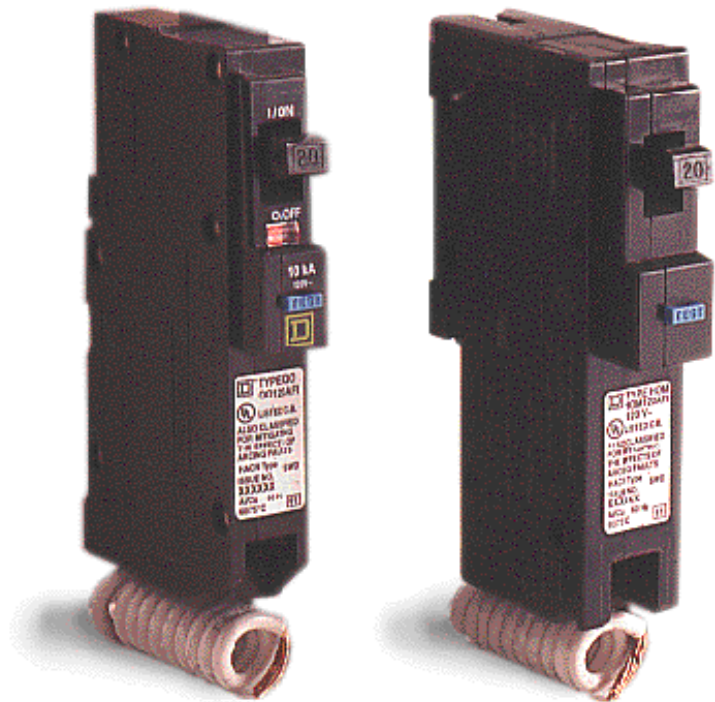
Many distribution fires are believed to have been started by arcing faults.

\* 1994 Consumer Products  
Safety Commission estimates.



**SQUARE D**  
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# Arc-D-tect™ Arc Fault Circuit Interrupters



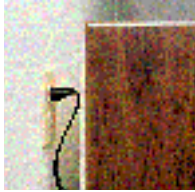
Traditional circuit breakers and fuses are designed to detect overloads and short circuits. GFCI's detect overloads, short circuits and ground faults. The Square D Arc-D-tect Arc Fault Circuit Interrupter (AFCI), on the other hand, was specifically designed to detect overloads, short circuits and arc faults. The AFCI is designed to open the circuit and stop the arc fault and its high intensity heat before a fire is likely to ignite. It was also designed to function with the same level of reliability that has made the Square D brand the choice of homeowners, builders, and electrical contractors.

After years of extensive testing, the Square D Arc-D-tect AFCI is now available for residential use. How important is this new electrical protection technology for the homeowner? It has had positive attention by the Consumer Product Safety Commission, Underwriters Laboratories, and the National Fire Protection Association. In addition, it will appear in the 1999 National Electrical Code as a requirement for branch circuits in bedrooms starting in January 2002. AFCIs obviously address a critical issue.

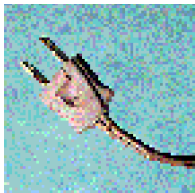
Why Arc-D-tect AFCIs make homes safer.

Arc faults can start fires anywhere in the home. They start silently, often in interior walls or other places hidden from view. And they can be caused by something as innocent as puncturing wire insulation while hanging a picture or pushing furniture against an electrical plug.

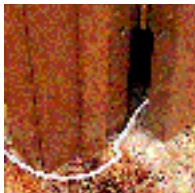
## Typical Causes of Dangerous Arcing Faults



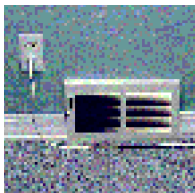
Furniture pushed against or resting on electrical cords can damage the wire insulation. Damaged cords can become a potential condition for arcing.



Extension cords that are damaged or worn can contribute to electrical arcing.



Cords caught in door jams can deteriorate the cable insulation through the action of opening and closing, allowing arcing to occur.



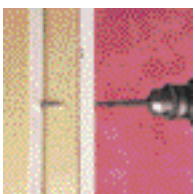
Cord insulation can be deteriorated by heat generated by hot air ducts or sunlight.



Nails carelessly driven into walls can break wire insulation and cause arcing.



Cables that were improperly installed by being nailed or stapled too tightly against a wall stud can have severed insulation and arcing can occur.



Wires located behind walls can be accidentally punctured by a screw, nail or drill bit damaging insulation which can cause arcing.

Arc faults have the potential to occur throughout the home because there are so many ways for them to start. A few of the typical conditions where arc faults may start include:

- Damaged wires
- Worn electrical insulation
- Loose electrical connections
- Wires or cords in contact with vibrating metal
- Overheated or stressed electrical cords and wires
- Misapplied or damaged electrical appliances

The Square D Arc-D-TECT™ AFCI doesn't need to know how the arc fault starts, because it recognizes an arc fault by its nature and takes action. And homeowners don't need to worry about arc faults because Arc-D-TECT AFCIs are available as an integral part of the QO® and HOMELINE™ circuit breaker families.

Innovative engineering, with the assurance of reliability.

The Square D Arc-D-TECT AFCI technology is the result of years of research and testing. Safety was our primary concern as we worked to develop the highest quality product, while also helping to define industry standards. Our extensive testing ensures that the Arc-D-TECT AFCI quickly detects the wide range of conditions causing arc faults. And it also addresses reliability without nuisance tripping.

Superior electrical system protection from Arc-D-TECT AFCI to SURGEBREAKER™ Secondary Surge Arrester.

The Arc-D-TECT AFCI is only the latest in a long line of electrical protection systems from Square D that make homes safer. Other examples include:

- QO and HOMELINE circuit breakers, exceeding industry performance standards
- QWIK-OPEN® protection on all 15A and 20A circuit breakers (the fastest in the industry)
- Exclusive QO VISI-TRIP® indication, featuring a red visual flag for easy identification of tripped conditions
- Ground Fault Circuit Interrupters to provide protection against electrical shock
- SURGEBREAKER Secondary Surge Arresters to protect against surge spikes

Homeowners, builders, and electrical contractors choose Square D because of our record for quality, reliability, and innovation that is apparent on first inspection and after years of operation. The Arc-D-TECT AFCI demonstrates once more that Square D takes special care in providing the best in electrical system protection.

# Arc-D-TECT™ Arc Fault Circuit Interrupters

## **QO® Arc Fault Circuit Interrupters 10,000 AIR**


Ampere Rating	One Pole 120 Volt Catalog Number
15	QO115AFI
20	QO120AFI

## **HOMELINE™ Arc Fault Circuit Interrupters 10,000 AIR**

Ampere Rating	One Pole 120 Volt Catalog Number
15	HOM115AFI
20	HOM120AFI

For more information on the latest and most reliable electrical protection system for the home, contact your local Square D distributor or sales office.

Visit the Square D web site  
at [www.squared.com](http://www.squared.com)

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