

**SIEMENS**

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# Whole House Safety

Pocket Guide

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# Use electricity safely everywhere in your home.



Most of us take the safety of our home's electrical system for granted. And yet faulty electrical systems are blamed for more than 67,000 fires in homes every year. Fires that kill hundreds of people and injure thousands more. That's why Siemens continues to develop new safety technologies to protect people in their homes.

Combination type arc fault circuit interrupters (AFCI) are the latest addition to our family of products designed to make sure that electricity can be used safely and reliably everywhere in a home. AFCIs detect arc faults in damaged wiring and stop the flow of electricity before a fire can start.

AFCIs are an essential part of a complete electrical protection system designed to provide whole house safety.

## What causes arc faults?

Arc faults can occur for many reasons and anywhere in a home's electrical system.

Causes include:

- Worn electrical insulation
- Misapplied or damaged plugs on electrical cords
- Loose electrical connections
- Drill bits, nails, staples or screws driven into wires behind the walls
- Furniture pressing against electrical cords
- Broken or frayed wires



But they usually occur at low power levels that can't be detected by a traditional circuit breaker. If you've ever plugged an electrical cord into an outlet and seen bluish sparks, you've seen an arc.

Arc faults can occur in both old and new homes, therefore protection is needed.

# Why are arc faults dangerous?



Because arc faults can occur at low power levels and often behind walls, they can go undetected for many years. But they generate high temperatures that can easily exceed the combustion point of common building materials.

The US Consumer Product Safety Commission (CPSC) estimates that replacing traditional circuit breakers with arc fault circuit interrupters could prevent more than half of all electrical fires in the home.

For this reason, the National Electrical Code has required AFCIs for bedroom circuits in new homes since 1999. Today that requirement has been expanded to include all sources of electrical current in most rooms of a house. It applies not only to bedrooms but family and living rooms, dens, sunrooms, recreation rooms, kitchens and laundry areas.

All new construction, including major remodeling projects that involve the electrical system, must comply with these new code requirements. Local codes may vary.

## What can you do to protect your home and family?

It often takes many years for local governments to adopt changes in national codes. For this reason, Siemens and other electrical manufacturers have joined forces to educate consumers about new electrical technologies like AFCI.

With more than one million new homes being constructed every year, and millions more being remodeled, the opportunity to protect more homes and families with a modern electrical safety system is significant.

Safety is everyone's responsibility. By asking your builder or electrical contractor to install combination-type AFCI devices for every room in your home, you can help assure that your family and possessions have maximum protection against electrical fires.

A home equipped with an electrical protection system designed to provide whole house safety increases in value.



Combination Type AFCI

# AFCI: Your first line of defense



The Combination-Type AFCI from Siemens is your first line of defense against arc faults and electrical fires. Developed in partnership with industry innovators, and tested with third-party experts and in the field, it is the most compact combination-type AFCI on the market.

The Siemens Combination-Type AFCI is equipped with our unique, patented LED trip indicators, which quickly let homeowners and electricians know when an arc fault, overcurrent, or short circuit has occurred.

The Siemens Combination-Type AFCI is listed by Underwriters Laboratories Inc. and is available on 120-volt, single-phase 15 and 20 amp branch circuits in both plug-in and bolt-on versions. They fit in a Siemens, Crouse Hinds or I.T.E. load center, replacing a traditional circuit breaker.

## What is Whole House Safety?

A modern electrical protection system includes circuitbreakers and load centers, ground fault circuit interrupters and surge protection devices, as well as AFCI. Each of these devices is designed to protect people and their possessions against different electrical dangers. Installed together, they achieve Whole House Safety.



### Circuit Breakers

Circuit breakers switch electrical power to different circuits and protect against current overloads, including short circuits that generate temperatures higher than wires will tolerate.



### Load Centers

Load centers are enclosures that house circuit breakers and AFCI devices. Available for different types of applications, and both indoor and outdoor installations.



### GFCI

Ground fault circuit interrupters (GFCI) protect people from electrical shocks in rooms where electricity is used in close proximity to water, such as kitchens and bathrooms.



### Surge Protector

Surge protection devices protect against voltage spikes, surges and electrical disturbances, including lightning strikes, which can damage or destroy appliances and equipment.



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