



GFCI FACT SHEET

One of the most important safety devices in your home is a simple electrical device called a Ground Fault Circuit Interrupter (GFCI). Estimates indicate that the installation of GFCIs have saved hundreds of lives and prevented thousands of injuries in the U.S. over the past 30 years.

GFCIs are designed to provide protection against electrical shock from ground faults, or leakage currents, which occur when the electrical current flows outside of the circuit conductors. If a person becomes part of a path for leakage current, he or she will be severely shocked or electrocuted.

If GFCIs were installed in every U.S. home, experts suggest that nearly 70 percent of the approximately 400 electrocutions that occur each year in the home could be prevented.

GFCI Test

GFCIs, however, are subject to wear and possible damage (as from a strong power surge during an electrical storm) and should be tested once a month and after electrical storms. Industry studies suggest that as many as 10 percent of GFCIs in use may be damaged. As a result, ESFI is asking the public to perform a simple monthly test to determine if the GFCIs in their homes are functioning properly.

Among the estimated millions of GFCIs installed nationwide, many are the standard wall or receptacle-type GFCIs. To test your GFCIs, follow this simple procedure:

- Push the "Reset" button of the GFCI receptacle to prepare the unit for testing.
- Plug in an ordinary nightlight into the GFCI and turn it on. The light should now be ON.
- Push the "Test" button of the GFCI. The nightlight should go OFF.
- Push the "Reset" button again. The nightlight should now go ON again.

The nightlight should go out when the test button is pushed. If the light does not go out, then the GFCI is not working or has been installed incorrectly. If the "Reset" button pops out during the test but the light does not go out, the GFCI may have been improperly wired. **In this case, the GFCI may have been damaged and does not offer shock protection. Contact a qualified electrician to check the GFCI and correct the problem.**

An Electrical Safety Foundation International (ESFI) survey found that about one-quarter of U.S. consumers don't understand the purpose of their GFCIs. Nearly one-half of U.S. families never test the GFCIs in their homes, and more than one-quarter did not know that GFCIs can help prevent electrocution. Even among those who routinely tested their GFCIs, none said that they tested their units as recommended. ESFI recommends that GFCIs be tested at least once a month and after storms.

GFCIs are generally installed in locations where moisture could present a leakage path for electrical current. They are most often found in kitchens, bath and laundry rooms, or outdoors.

How Do GFCIs Work?

A standard 120-volt outlet in the United States has two vertical slots with a round hole centered above or below the slots. The larger slot is neutral. The smaller slot is hot. The hole is the ground.

Normally, there will not be any imbalance in the amount of current flowing from hot to neutral. If there is an imbalance in the current through faulty wiring, damaged cords, faulty or mishandled appliances or poorly insulated wires, the GFCI will detect the leakage currents and if working properly, trip or disconnect the circuit or flow of electricity.

Besides the receptacle-type GFCI, there are two other types of GFCIs in use: GFCI circuit breakers and portable GFCIs.

GFCI circuit breakers serve a dual purpose: shutting off electricity in case of a ground fault, and tripping when a short circuit or electrical overload occurs. To test this type of GFCI, push the "test" button. This should cause the circuit breaker to snap. Check an appliance or light on the circuit to see if it is off. Then, switch the circuit on by flipping the toggle switch(s) on the circuit breaker GFCI. This should switch the power on.

A portable GFCI can be plugged into a standard outlet. Portable GFCIs are not intended to replace standard GFCIs or GFCI circuit breakers, but are useful for cord-connected appliances and equipment that are used outdoors or near water.

For more information on electrical safety, visit ESFI's website, www.electrical-safety.org.