



# GROUND FAULT CIRCUIT INTERRUPTER (GFCI)

An electrical outlet used in a wet area must be protected by a GFCI device to prevent electrical shock.

## GFCI DEVICES

The ground fault circuit interrupter (GFCI) ensures that the worst shock from being exposed to electricity is at most a 5 milliampere (mA) of current. This can be painful but shouldn't be fatal because the GFCI will create a ground fault, or leakage, in the current.

Some spaces such as bathrooms, kitchens and laboratories are required to have GFCI receptacles or circuits in new construction. Many existing buildings do not have GFCI devices, so adapters are an effective way to improve safety.

Electrical equipment used outdoors, including extension cords and temporary lights (drop lights, shop lights decorative lights) must be directly plugged into a GFCI protected outlet designed for this use or adaptors intended for outdoor locations.

## OUTLET RECEPTACLE ADAPTER

This type of GFCI can be plugged into a grounded receptacle to provide protection against ground faults whenever an electrical product is plugged into the adaptor. Older buildings are not equipped with receptacle type GFCIs, so outlet adaptors are a good option. The GFCI Outlet Adaptor is a cheap and easy way to have GFCI protection. It can be purchased on [Amazon](https://www.amazon.com) or at another retailer.



Outlet adaptor GFCI

## RECEPTACLE

This type of GFCI is used in place of the standard duplex receptacle. It fits into the standard outlet box and protects you against "ground faults" whenever an electrical product is plugged into the outlet. Most receptacle-type GFCIs can be installed so that they also protect other electrical outlets farther downstream in the branch circuit.



Receptacle GFCI

## CIRCUIT BREAKER

In buildings equipped with circuit breakers (not fuses), a circuit breaker GFCI may be installed in a panel box to protect selected circuits. The circuit breaker GFCI will shut off electricity in the event of a "ground-fault," and will trip during a short circuit or overload. This protection covers the wiring and each outlet, lighting fixture or appliance served by the branch circuit protected by the GFCI in the panel box.



Circuit breaker GFCI

## PORTABLE

Where permanent GFCIs are not practical, portable GFCIs may be used. One type contains the GFCI circuitry in a plastic enclosure with plug blades in the back and receptacle slots in the front. This is plugged into a receptacle, and then the electrical product is plugged into the GFCI. Another type of portable GFCI is an extension cord combined with a GFCI.

Contact EH&S at (206) 543-7388 with questions.