

Installing and Testing a GFCI Receptacle

Please read this leaflet completely before getting started.

DI-000-X7299-02A

CAUTION

- To prevent severe shock or electrocution always turn the power OFF at the service panel before working with wiring.
- Use this GFCI with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a circuit that powers life support equipment because if the GFCI trips it will shut down the equipment.
- For installation in wet locations, protect the GFCI receptacle with a weatherproof cover that will keep both the receptacle and any plugs dry.
- Must be installed in accordance with national and local electrical codes.

1. What is a GFCI?

A GFCI receptacle is different from conventional receptacles. In the event of a ground fault, a GFCI will trip and quickly stop the flow of electricity to prevent serious injury.

Definition of a ground fault:

Instead of following its normal safe path, electricity passes through a person's body to reach the ground. For example, a defective appliance can cause a ground fault.

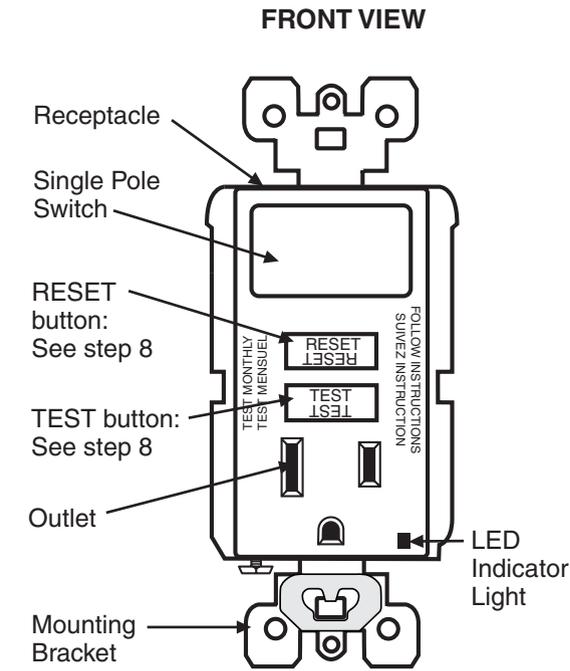
A GFCI receptacle does **NOT** protect against circuit overloads, short circuits, or shocks. For example, you can still be shocked if you touch bare wires while standing on a non-conducting surface, such as a wood floor.

NOTE:

GFCI's contain a lockout feature that will prevent RESET if:

- There is no power being supplied to the GFCI.
- The GFCI is miswired due to reversal of the LINE and LOAD leads.
- The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.

2. The combination GFCI/Switch's features

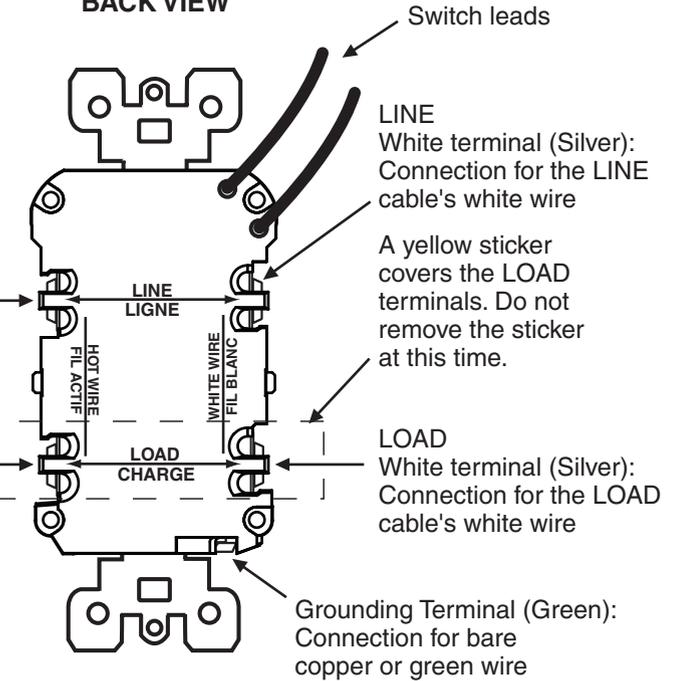


Screw (terminal) colors:
Green = grounding terminal
Silver = WHITE terminals
Brass = HOT terminals

LINE
Hot terminal (Brass):
Connection for the LINE
cable's black wire

LOAD
Hot terminal (Brass):
Connection for the LOAD
cable's black wire

BACK VIEW



3. Should you install it?

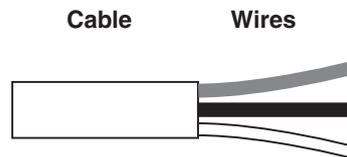
Installing a GFCI receptacle can be more complicated than installing a conventional receptacle.

Make sure that you:

- Understand basic wiring principles and techniques
- Can interpret wiring diagrams
- Have circuit wiring experience
- Are prepared to take a few minutes to test your work, making sure that you have wired the GFCI receptacle correctly

4. LINE vs. LOAD

A cable consists of 2 or 3 wires.



LINE cable:

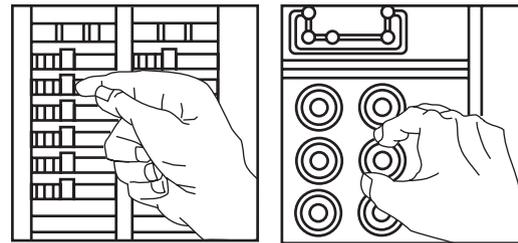
Delivers power from the service panel (breaker panel or fuse box) to the GFCI. If there is only one cable entering the electrical box, it is the LINE cable. This cable should be connected to the GFCI's LINE terminals only.

LOAD cable:

Delivers power from the GFCI to another receptacle in the circuit. This cable should be connected to the GFCI's LOAD terminals only. The LOAD terminals are under the yellow sticker. Do **NOT** remove the sticker at this time.

5. Turn the power OFF

Plug an electrical device, such as a lamp or radio, into the receptacle on which you are working. Turn the lamp or radio ON. Then, go to the service panel. Find the breaker or fuse that protects that receptacle. Place the breaker in the OFF position or completely remove the fuse. The lamp or radio must turn OFF.



Next, plug in and turn ON the lamp or radio at the receptacle's other outlet to make sure the power is OFF at both outlets. If the power is not OFF, stop work and call an electrician to complete the installation.

6. Identify cables/wires

Important:

DO NOT install the GFCI receptacle in an electrical box containing (a) more than four (4) wires (not including the grounding wires) or (b) cables with more than two (2) wires (not including the grounding wire). Contact a qualified electrician if either (a) or (b) are true.

If you are replacing an old receptacle, pull it out of the electrical box without disconnecting the wires.

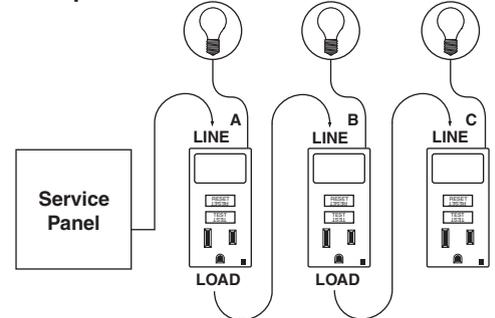
- If you see two cables (4-6 wires), one is the GFCI LINE cable. The other is a cable to the lamp LOAD. The receptacle is probably in position C (see diagram to the right). Remove the receptacle and go to step 7A.
- If you see three cables (6-9 wires), the receptacle is probably in position A or B (see diagram to the right). Follow steps a-e of the procedure to the right.

Procedure: box with three (3) cables (6-9 wires):

- Detach two of the cable's white and hot wires from the receptacle and cap each one separately with a wire connector. Make sure that they are from the same cable.
- Re-install the receptacle in the electrical box, attach faceplate, then turn the power ON at the service panel.
- Determine if power is flowing to the receptacle. If so, you have identified the LINE cable (**go to step d**). If not, the LINE is one of the other cables with the capped wires. Tag this cable and repeat this procedure with the two remaining cables until you have identified the LINE.
- Turn the power OFF at the service panel, label the LINE and LOAD wires, then remove the receptacle.
- Go to step 7B.

Placement in circuit:
The GFCI's place in the circuit determines if it protects other receptacles in the circuit.

Sample circuit:



Placing the GFCI in position A will also provide protection to "load side" receptacles B and C. On the other hand, placing the GFCI in position C will not provide protection to receptacles A or B. Remember that receptacles A, B, and C can be in different rooms.

