

Installing and Testing
a GFCI Receptacle

Please read this leaflet
completely before
getting started.

CAUTION

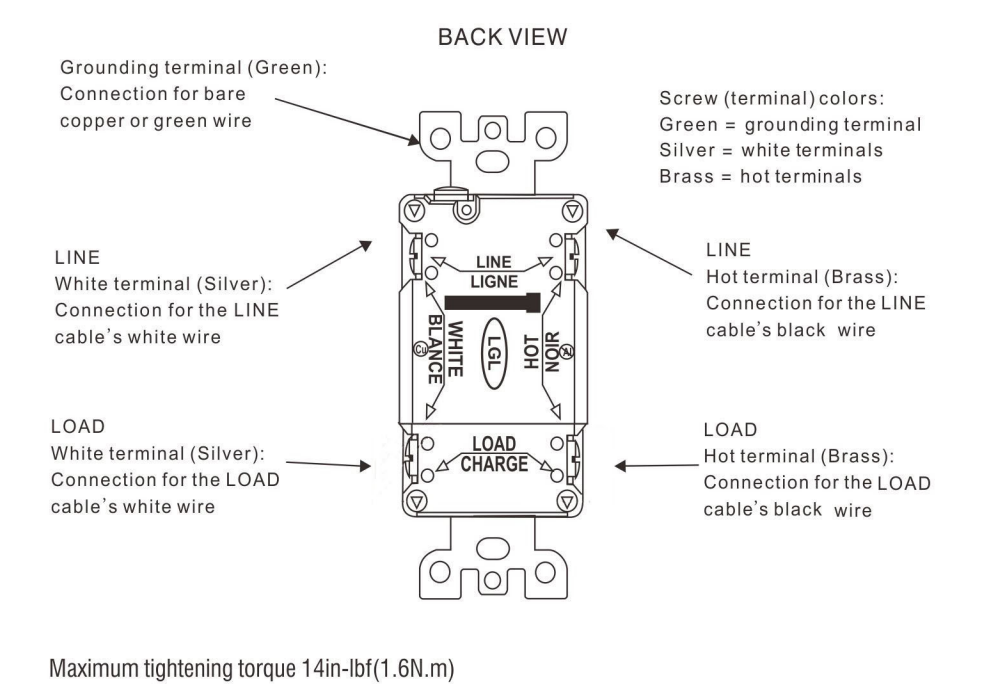
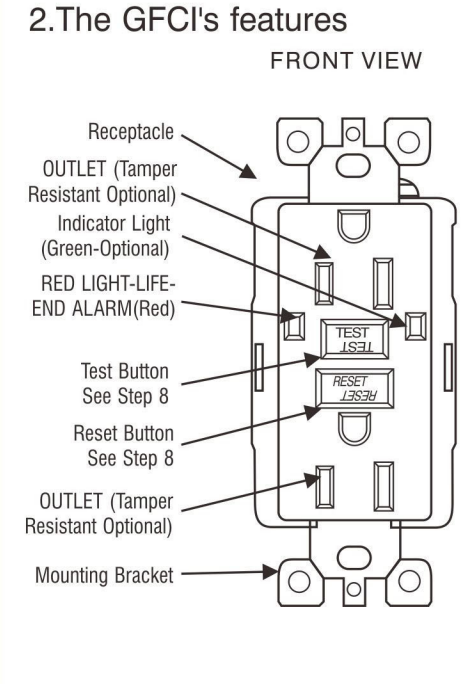
- To prevent severe shock or electrocution, always turn the power OFF at the service panel before working with wiring.
- Use this GFCI receptacle with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a circuit that powers life support equipment because if the GFCI trips it will shut down the equipment.
- For installation in damp or wet locations, the GFCI receptacle must be Listed and marked as Weather Resistant (WR).
- For installation in wet locations, protect the GFCI receptacle with a cover plate or outlet box hood suitable for wet locations that will keep both the receptacle and plug face 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 overload, 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.



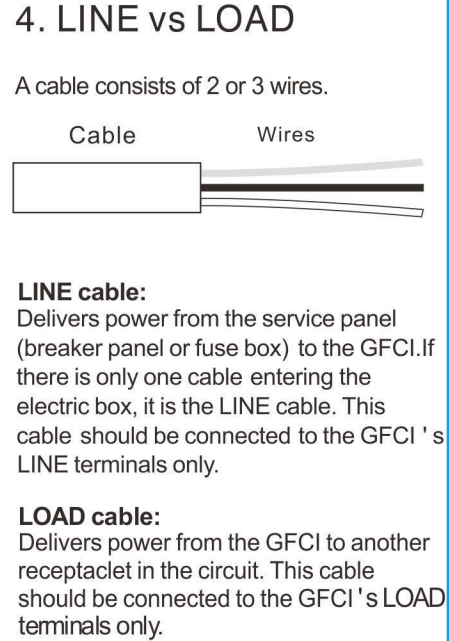
Maximum tightening torque 14in-lbf(1.6N.m)

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.



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 should turn OFF.

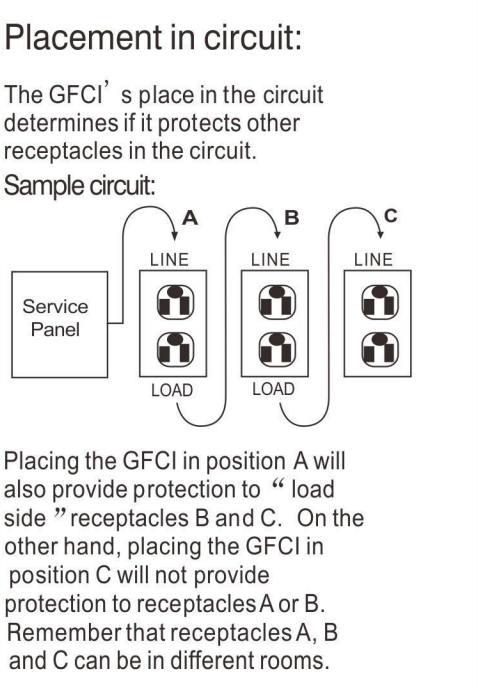
6. Identify cables/wires-

Important: Do not install the GFCI receptacle in an electrical box containing (a) more than 4 wires (not including the grounding wires) or (b) cables with more than two wires (not including the grounding wire). Contact a qualified electrician if either (a) or (b) is true.

- If you are replacing an old receptacle, pull it out of the electrical box without disconnecting the wires.
- If you see one cable (2-3 wires), it is the LINE cable. The receptacle is probably in position C (see diagram to the right). Remove the receptacle and go to step 7A.
- If you see two cables (4-6 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.

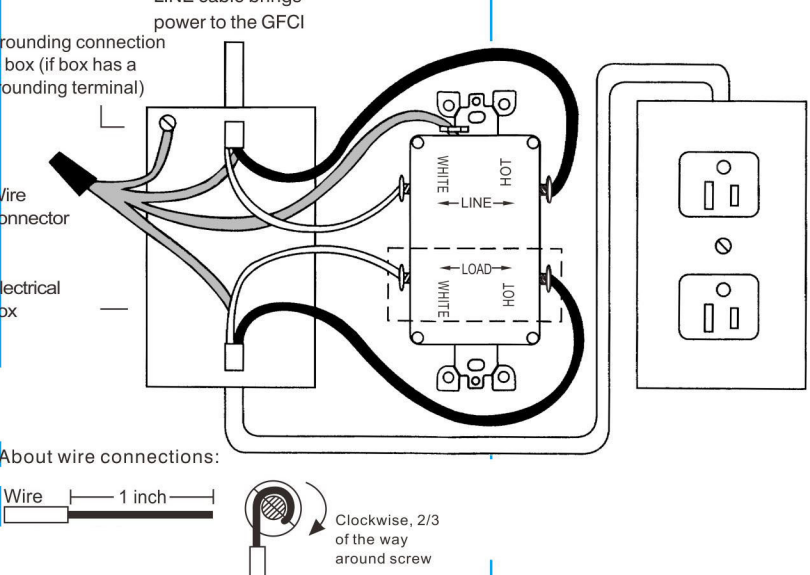
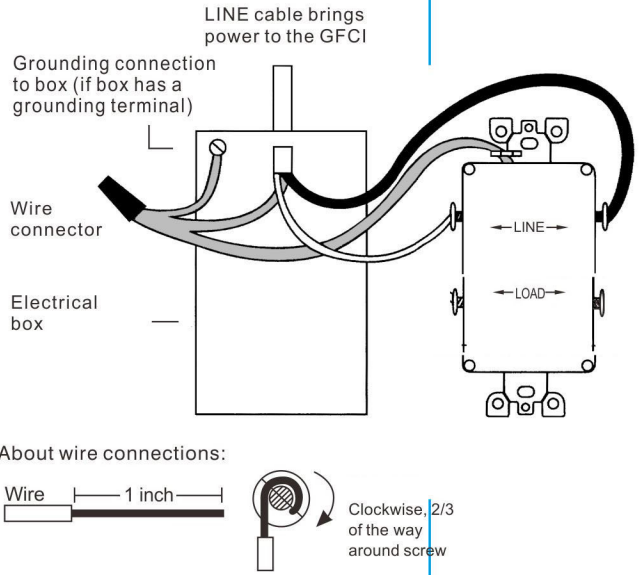
Procedure: box with two cables (4-6 wires)

- Detach one 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 the faceplate, then turn the power ON at the service panel.
- Determine if power is flowing to the receptacle. If so, the capped wires are the LOAD wires. If not, the capped wires are the LINE wires.
- Turn the power OFF at the service panel, label the LINE and LOAD wires, then remove the receptacle.
- Go to step 7B.



7. Connection the wires (choose A or B)...only after reading other side completely

A: One cable (2-3 wires) entering the box OR B: Two cables (4 or 6 wires) entering the box



Connect the LINE cable wires to the LINE terminals:

- The white wire connects to the White terminal (Silver)
- The black wire connects to the Hot terminal (Brass)

Connect the grounding wire (only if there is a grounding wire):

- For a box with no grounding terminal (diagram not shown): Connect the LINE cable's bare copper (or green) wire directly to the grounding terminal on the GFCI receptacle.
- For a box with a grounding terminal (diagram shown above): Connect a 6-inch bare copper (or green) 12 or 14 AWG wire to the grounding terminal on the GFCI. Also connect a similar wire to the grounding terminal on the box. Connect the ends of these wires to the LINE cable's bare copper (or green) wire using a wire connector. If these wires are already in place, check the connections.

Complete the installation:

- Fold the wires into the box, keeping the grounding wire away from the White and Hot terminals. Screw the receptacle to the box and attach the faceplate.
- Go to step 8.

Connect the LINE cable wires to the LINE terminals:

- The white wire connects to the White terminal (Silver)
- The black wire connects to the Hot terminal (Brass)

Connect the LOAD cable wires to the LOAD terminals:

- The white wire connects to the White terminal (Silver)
- The black wire connects to the Hot terminal (Brass)

Connect the grounding wires as shown above (only if there is a grounding wire):

- Connect a 6-inch bare copper (or green) 12 or 14 AWG wire to the Grounding terminal on the GFCI. If the box has a grounding terminal, also connect a similar wire to the grounding terminal on the box. Connect the ends of these wires to the LINE and LOAD cable's bare copper (or green) wire using a wire connector. If these wires are already in place, check the connections.

Complete the installation:

- Fold the wires into the box, keeping the ground wire away from the White and Hot terminals. Screw the receptacle to the box and attach the faceplate.
- Go to step 8.

8. Test your work

Why perform this test?

- If you miswired a GFCI, it can not be reset, the green indicator LED will be on, by which it may prevent personal injury or death due to a ground fault (electrical shock)
- If you mistakenly connect the LINE wires to the LOAD terminals, it will not provide power to either the outlet of the GFCI or the load terminals fed through the GFCI.

Procedure:

- After finishing the connection of wires and supply the power, Press the RESET button fully and plug in a lamp or radio into the GFCI to verify that the GFCI wired correctly (make sure to plug in completely); if the GFCI had been wired properly, it can be reset and supply the power to the outlet and the load terminals of the device.
- Press the TEST button to test the device, which will stop the flow of electricity at this moment, and the radio or the lamp will go out, in addition, the RESET button will pop out, all those show that the GFCI has been correctly installed and wired, then press the RESET button to restore the power, the green indicator LED will be on.
- If you installed your GFCI using step 7B, plug a lamp or radio into surrounding receptacles to see which one(s), in addition to the GFCI, lost power when you pressed the TEST button. Do not plug life saving devices into any receptacles that lost power. Place a "GFCI Protected" sticker on every receptacle that lost power.
- The GFCI includes an end-of-life monitoring function. Once the GFCI been correctly wired and powered, the red LED will flash one time within 5 seconds, and the internal self-testing circuit will lunch every 1-10 minutes. When the GFCI display an alarm during its operation, the Red light will turn on immediately, and it will no longer provide a ground fault circuit protection, reminding the user that the GFCI is end of life and must be replaced.
- Press the TEST button (then RESET button) monthly to ensure a proper operation, if the Green LED goes off when tripped, it means that the GFCI can still offer a ground fault circuit protection, the testing circuit is connected to the end-of-life monitoring circuit in a GFCI, press the TEST button and cut off the power within the predetermined time, then press the RESET button to connect with the testing circuit, if the GFCI can provide ground fault circuit protection, it can be reset and supply the power to the outlets and the load terminals; if it fails to be reset, it reminds the user that GFCI end of its life and should be replaced by a new one.
 - A GFCI end its life when it fails to supply power, although the Line and Load are wired correctly, if it happened, press TEST button manually, force to trip and cut off the power and replace it by a new one.
 - A GFCI end of its life when it can't be reset, although the Line and Load are wired correctly, please replace it by a new one.
- Tamper Resistant GFCI, it may stop the kids use any foreign body to contact any alive parts of the receptacle from the outlets.

TRUBLE SHOOTING

Turn the power OFF and check the wire connections against the appropriate wiring diagram in step 7A or 7B. Make sure that there are no loose wires or loose connections. Also, it is possible that you reversed the LINE and LOAD connections if the GFCI can not be reset and there is no power at the receptacle. Start the test from the beginning of step 8 if you rewired any connections to the GFCI.

GFCI Ratings:

15A 125V AC Cat.No. **TS15, TS115** Duplex Receptacle
20A 125V AC Cat.No. **TS20, TS120** Duplex Receptacle
20A 125V AC Cat.No. **TS1** Dead Front GFCI

General Information

LIMITED WARRANTY AND EXCLUSIONS

We warrant to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by our company is free of defects in materials and workmanship under normal and proper use for one year from the purchase date. Our only obligation is to correct such defects by repair or replacement, at its option, if within such one year period the product is returned prepaid, with proof of purchase date, and a description of the problem to our company. This warranty excludes and there is disclaimed liability for labor for removal of this product or reinstallation. This warranty is void if this product is installed improperly or in an improper environment, overloaded, misused, opened, abused, or altered in any manner, or if it is not used under normal operating conditions or not in accordance with any labels or instructions. There are no other or implied warranties of any kind, including merchantability and fitness for a particular purpose, but if any implied warranty is required by the applicable jurisdiction the duration of any fitness for a particular purpose is limited to one year. Our company is not liable for incidental, in direct special or consequential damages, including without limitation damage to, or loss of use of, any equipment, lost sales or profits or delay or failure to herein are the exclusive remedies under this warranty, whether based on contract tort or otherwise.

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