1. What is a GFCI?
A GFCI (Ground Fault Circuit Interrupter) 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 GFCI's features
- TOGGLE button: See step 8
- TEST button: See step 8
- Guidelight
- White/Red Status Indicator LED
- Back wire

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.
- Single wire:
  - Black = HOT terminal (Brass or Black)
  - White = WHITE terminal (Silver)
- Two wire:
  - Black and White = HOT and WHITE terminals
- Three wire:
  - Black, White, and Green = HOT, WHITE, and GREEN terminals

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 or fuse in the OFF position or completely remove the fuse. The lamp or radio must turn OFF.

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.

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.

Procedure: box with two (2) cables (4-6 wires):
(a) Detach one cable’s white wire and hot wires from the receptacle and cap each one separately with a wire connector. Make sure that they are from the same cable.
(b) Re-install the receptacle in the electrical box, attach faceplate, then turn the power ON at the service panel.
(c) 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.
(d) Turn the power OFF at the service panel, label the LINE and LOAD wires, then remove the receptacle.
(e) 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:
- A, B, and C are grounded.
- A and B are wired in parallel.
- C is a load side receptacle.
- Place the GFCI in position A.
- Place the GFCI in position B.
- Place the GFCI in position C.
- Place the GFCI in position D.
- Place the GFCI in position E.

7. Electrical diagrams:
- FRONT VIEW
- BACK VIEW
- Diagrams for installation and testing of GFCI receptacle

8. Connecting the GFCI:
- Use this GFCI with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a panel that protects life support equipment or a panel before working with wiring.
- 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.

9. Wires:
- Solid wire:
  - Use stranded wire for flexible cords or conduit, and solid wire otherwise.
- Stranded wire:
  - For installation in wet locations, protect the equipment.

10. Precautions:
- The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.
- The GFCI contains 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.

11. 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.

12. Connecting the GFCI:
- Use this GFCI with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a panel that protects life support equipment or a panel before working with wiring.
- 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.

13. Wires:
- Solid wire:
  - Use stranded wire for flexible cords or conduit, and solid wire otherwise.
- Stranded wire:
  - For installation in wet locations, protect the equipment.

14. Precautions:
- The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.
- The GFCI contains 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.

15. 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.

16. Connecting the GFCI:
- Use this GFCI with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a panel that protects life support equipment or a panel before working with wiring.
- 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.

17. Wires:
- Solid wire:
  - Use stranded wire for flexible cords or conduit, and solid wire otherwise.
- Stranded wire:
  - For installation in wet locations, protect the equipment.

18. Precautions:
- The GFCI cannot pass its internal test, indicating that it may not be able to provide protection in the event of a ground fault.
- The GFCI contains 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.

19. 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.

20. Connecting the GFCI:
- Use this GFCI with copper or copper-clad wire. Do not use it with aluminum wire.
- Do not install this GFCI receptacle on a panel that protects life support equipment or a panel before working with wiring.
- 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.

21. Wires:
- Solid wire:
  - Use stranded wire for flexible cords or conduit, and solid wire otherwise.
- Stranded wire:
  - For installation in wet locations, protect the equipment.
7. Connect the wires (choose A or B), only after reading other side completely

**A: One Cable (2 or 3 wires) entering the box**

- Grounding connection to box (if box has a grounding terminal)
- **White** wire connects to the **WHITE** terminal (Silver)
- Connect the **LINE** cable wires to the **LINE** terminals:
  - **Back Wire**: Insert bare wire fully and tighten terminal clamp on conductor ONLY
  - **Back Wire**: Loop clockwise 2/3 of the way around screw
  - **Side Wire**: Loop clockwise 2/3 of the way around screw

**About Wire Connections:**
- **Side Wire**:
- **Back Wire**:

**B: Two cables (4 or 6 wires) entering the box**

- Connect the **LINE** cable brings power to the GFCI (if box has a grounding terminal)
- **Yellow** sticker remains in place to cover the **LOAD** terminals
- **White** wire connects to the **WHITE** terminal (Silver)
- Connect the **LOAD** cable feeds power to other receptacle(s)
- **Back Wire**:
- **Back Wire**:

About Wire Connections:
- **Side Wire**:
- **Back Wire**:

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**About Wire Connections:**
- **Side Wire**:
- **Back Wire**:

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**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 or Black)
- Connect the **LOAD** cable wires to the **LOAD** terminals:
  - **Back Wire**: Insert bare wire fully and tighten terminal clamp on conductor ONLY
  - **Back Wire**: Loop clockwise 2/3 of the way around screw
  - **Side Wire**: Loop clockwise 2/3 of the way around screw

**About Wire Connections:**
- **Side Wire**:
- **Back Wire**:

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8. Test your work

**Why perform this test?**
- If you missed the GFCI it may not prevent personal injury or death due to a ground fault (electrical shock).
- If you mistakenly connect the LINE-wires to the LOAD terminals, the GFCI will not reset and will not provide power to either the GFCI receptacle face or any receptacles fed from the GFCI.

**Procedure:**
(a) This GFCI is shipped from the factory in the tripped condition and cannot be reset until it is wired correctly and power is supplied to the device. Plug a lamp or radio into the GFCI (and leave it plugged in) in the power ON at the service panel. Ensure that the GFCI is still in the tripped condition by pressing the TEST button. If the lamp or radio is OFF, and the GFCI will not reset, go to the troubleshooting section as the Line and Load connections are reversed.
(b) Press the RESET button fully and release. If the Status Indicator Light turns ON and the lamp or radio is ON, the GFCI has been installed correctly. If the Status Indicator Light turns or continuously blinks Red, or the GFCI cannot be reset, go to the Self-Test Operation section.
(c) 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. lose power, when you press the TEST button. Place a “GFCI RED” sticker on the lamp or radio and press the RESET button to reset the GFCI. DO NOT plug life saving devices into any of the receptacles that lost power.
(d) Press the TEST button (then the RESET button) every month to assure proper operation. If the Status Indicator Light does not turn White when the RESET button is depressed and then released, or the GFCI cannot be reset, it must be replaced.

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**TROUBLESHOOTING**

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. If the Status Indicator Light is not ON and the device is unable to operate this could be a result of no power available. Start the test from the beginning of Step 7 if you own any connections to the GFCI.

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**Self-TEST OPERATION**

- A Self-Test GFCI receptacle has all the features of a conventional GFCI receptacle. In addition, this receptacle tests itself periodically to confirm the GFCI electronics are functional. The Status Indicator Light will be solid white while the GFCI is powered from line side and working correctly.

**Self-Test Indications:** If the Status Indicator Light is solid or flashing RED a problem may exist. Press the TEST button to trip the GFCI. If unable to reset, replace the GFCI. **NOTE:** The Status Indicator may Flash Red at power “ON” and Reset.

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**LIMITED 2 YEAR WARRANTY AND EXCLUSIONS**

Leviton warrants to the original consumer purchaser and not for the benefit of anyone else that this product at the time of its sale by Leviton is free of defects in materials and workmanship. The remedies provided under this warranty are in lieu of all other warranties, expressed or implied. 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, altered in any manner, or is not used under normal operating conditions or not in accordance with the instructions. This warranty excludes and there is no warranty of merchantability or fitness for a particular purpose.

Leviton’s sole obligation under this warranty is to correct defects by repair or replacement, at its option, provided that the product is returned, freight prepaid, to the Leviton Factory Assembly Plant. This warranty is conditioned upon immediate notice to Leviton of any claimed defects. Leviton reserves the right to inspect any product claimed to be defective before making any warranty adjustment.

Additional wares are the consumer’s exclusive remedies, and Leviton shall not be liable for any consequential or incidental damages. This warranty gives you specific legal rights, and you may have other rights which may vary from state to state.

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**FCC STATEMENT**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**IC STATEMENT**

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

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**FOR CANADA ONLY**

For Technical Assistance Call: 1-800-824-3005 (U.S.A. Only) 1 800 405-5320 (Canada Only) www.leviton.com

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**FOR CANADA ONLY**

For warranty information and product support, residents of Canada should contact Leviton in writing or Leviton Manufacturing of Canada Ltd to the attention of the Quality Assurance Department, 165 Hymus Blvd, Pointe-Claire (Quebec), Canada H9R 1E9.

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**NOTE:** LINE and LOAD wiring terminals accept #10 - #14 AWG solid or stranded copper wire.

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