

Installation Instruction PUB-49748

Effective April 2011
Supersedes May 2003

Important Safety Instructions for Installing Circuit Breaker Branch/Feeder 120/240 2-Pole Arc Fault Circuit Interrupter (AFCI) and Ground Fault Circuit Interrupter (GFCI)

What is an Arc Fault Breaker and GFCI?

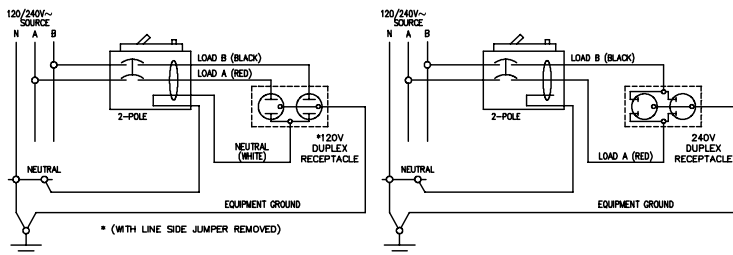
It is a new type of circuit breaker with additional circuit protection, which mitigates the effects of an arcing fault, and also provides personnel ground fault protection.

READ ALL INSTRUCTIONS BEFORE USING

⚠ WARNING

FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DEATH, PERSONAL INJURY OR PROPERTY DAMAGE.

1. Circuit breaker should be installed by a qualified electrician only.
2. Install circuit breaker on a single phase 120/240 V~ 60 Hz grounded power supply system.
3. WARNING. TURN OFF POWER AT THE MAIN BREAKER BEFORE BEGINNING INSTALLATION. FAILURE TO DO SO WILL RISK ELECTRICAL SHOCK & POSSIBLY DEATH, PERSONAL INJURY OR PROPERTY DAMAGE.
4. To turn off power to circuit breaker, move main breaker handle firmly to the "OFF" position.
5. Plug the circuit breaker into the desired breaker position.
6. Diagrams shown are for typical NM-B cable; wire as required.



- a. Connect the coiled white "pigtail" wire from the circuit breaker to the panel or enclosure neutral bus terminal & secure tightly.
- b. Connect the white (neutral) load wire to the terminal side of the circuit breaker identified with a white mark.
- c. Connect the black (hot) load wire to a circuit breaker terminal marked "LOAD".
- d. Connect the red (hot) load wire to the other circuit breaker terminal marked "LOAD".

USING CABLE HAVING 3 CONDUCTORS PLUS GROUND (E.G., NM-B CABLE.)

7. Installer to use the "TEST" buttons (one at a time) on front of ARC FAULT BREAKER to test the Arc Fault test circuit by tripping the breaker. The breaker handle moves to either the middle position or "OFF". First turn breaker to the on position, push or move one of the test buttons on the front of the breaker. The breaker must trip otherwise the breaker must be replaced. Restore power by moving the breaker handle firmly to the "OFF" position and then moving the handle to the "ON" position. Next test the other half of the breaker. Push or move the other test button. Breaker must trip. Otherwise it must be replaced. Restore power. Third test the GFCI function of the breaker by moving the test button in direction of GF arrow. Breaker must trip, otherwise it must be replaced. Installer to verify circuit by connecting a 120 volt 40-watt or higher light bulb load to each phase of the branch circuit. Turn "ON" the breaker, if breaker stays on installation is correct. This light bulb load can be removed after turning off power.

8. Information is on breaker relating to required wire (gauge, material, strip gauge), connector (torque rating, temperature).
9. To report suspicious breaker tripping call the toll free Eaton Help desk phone (800) 326-9513.
10. Attach the glue-on label "HOMEOWNER INSTRUCTIONS" to the front of the panelboard and give a copy of these instructions to homeowner.

⚠ CAUTION

DO NOT REVERSE-FEED OR BACK-WIRE, AND DO NOT SUBJECT TO MEGGER HIGH VOLTAGE OR HIGH-POT TEST. REMOVE THE CIRCUIT BREAKER BEFORE HIGH-POTTING OCCURS ON THE CIRCUIT OR THE SYSTEM.

HOMEOWNER INSTRUCTIONS FOR A 2-POLE

1. For circuit breaker BRANCH/FEEDER ARC FAULT CIRCUIT INTERRUPTER (AFCI) and GFCI. Listing mark is on front of breaker,

How do you locate an Arc Fault and GFCI Breaker inside the panel?

2. Look for the circuit breaker that has a label on its front that reads 'ARC FAULT BREAKER and GFCI'. The label and the "TEST" buttons can be seen without removing the front trim on the panelboard.
3. Homeowner to use the "TEST" buttons one at a time on the front of the breaker to test the Arc Fault test circuit by tripping the breaker. The breaker handle moves to either the middle position or "OFF". First push or move one of the Arc Fault test buttons on the front of the breaker. The breaker must trip otherwise the breaker must be replaced. Restore power by moving the breaker handle firmly to the "OFF" position and then moving to the "ON" position. Next test the other half of the Arc Fault breaker. Push or move the other test button. Breaker must trip, otherwise it must be replaced. Third test the GFCI function by moving the test button in the direction of the GF arrow. Breaker must trip, otherwise breaker must be replaced. A qualified electrician should be used to replace a breaker. After testing restore power.

4. Test regularly, at least once per month, following the test method outlined above.

What do you do if an Arc Fault and GFCI Breaker trips?

5. If the breaker trips (handle moves to "OFF" position or to a mid-position) remove all loads from the receptacles in this branch circuit. Restore power to the breaker to see if it will stay "ON". If the breaker trips again, have an electrician check the permanent electrical wiring by first turning off any wall switches that control light fixtures or outlets. The fault could be arcing, poor insulation, shorted wires, wet connections, wet conduit, a neutral lead pinched to a grounded metal box, receptacle leakage, or other faults which could cause the safety features of the circuit breaker to open the circuit. If the breaker stays on, then switch the breaker to the "OFF" position and reconnect one of the loads. First connect a 120 volt 40-watt or higher light bulb load to the circuit. Turn the breaker "ON" and switch on that load. If the breaker trips with just this load connected, then please call an electrician to resolve. If the breaker remains "ON", and the load operates normally, add an additional load. This process should be continued until the breaker trips or stays on. The load which has been added last and caused a trip should be examined for possible faults. The fault could be among those listed above. The total load on the breaker should also be calculated to determine if a possible overload condition exists before reusing the device (see Note A below). Loads suspected of having faults should not be restored to service. If the breaker remains "ON" with all of the original loads reconnected, push the breaker handle to the "OFF" position, wait 1 or 2 minutes, and move the handle to the "ON" position. Breaker tripping would indicate that inrush currents are too high. Reduce load until breaker can stay on.

Note: Possible overload conditions can be checked by adding the currents drawn by various loads (watts/120) or (watts/240) and comparing the sum to the breaker handle rating.

Eaton Corporation
Electrical Sector
1111 Superior Ave.
Cleveland, OH 44114
United States
877-ETN-CARE (877-386-2273)
Eaton.com

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Publication No. PUB- 49746 / 005
April 2011