

Arc-Fault Circuit Breaker, One-Pole

Installer Instructions

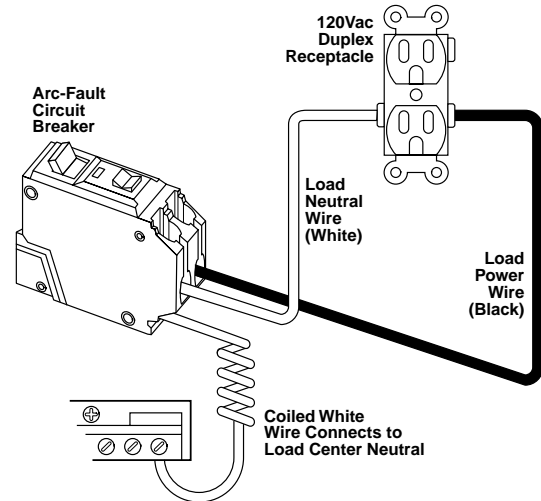
WARNING: Failure to follow these instructions could result in death, personal injury, or property damage.

- This circuit breaker is intended for use on single-phase grounded, 120 Vac 2-wire branch circuits.
- Use only cable having two conductors plus ground, such as NM-B cable.
- Do NOT use cable having three conductors plus ground.
- Do not use the breaker on a shared-neutral circuit.
- This equipment must be installed and serviced only by a qualified electrician.

WARNING: Turn off power to main breaker before beginning installation. Failure to do so will risk electrical shock and possible death, personal injury, or property damage.

Install the Arc-Fault Circuit Breaker using the following procedure:

1. Latch the Arc-Fault Circuit Breaker by moving its handle firmly to the OFF position.
2. Wire the Arc-Fault Circuit Breaker to load center (see connection diagram).
 - A. Connect the coiled white “pigtail” wire from the Arc-Fault Circuit Breaker to the panel or enclosure neutral bus terminal and secure it tightly. Uncoil pigtail as necessary.



Arc-Fault Circuit Breaker Connection Diagram

- B. Connect the white (neutral) load wire to the terminal side of the circuit breaker, identified by a silver-colored terminal screw, labeled LOAD NEUTRAL.
 - C. Connect black (hot) wire to circuit breaker terminals labeled LOAD, identified by a gold-colored screw terminal screw.
3. Plug the circuit breaker into the desired pole position.
 4. Test the Arc-Fault Circuit Breaker using the white rocker switch on the front of the breaker, labeled TEST. Follow Test Procedures as indicated in next section.
 5. See Troubleshooting Guide for the troubleshooting method to be used for a tripped Arc-Fault Circuit Breaker.

CAUTION: Do not reverse-feed or back-wire. Do not subject to megger, high-voltage, or high-pot tests. Remove the circuit breaker before high-potting occurs on the circuit or the system.

Test Procedures (Circuit breaker should be tested regularly, at least once per month.)

The Arc-Fault Circuit Breaker senses arcs in two different ways. The test feature allows the homeowner to test each of these modes by depressing a rocker switch in two directions. The breaker has passed the test if the TRIP flag appears in the window.

1. Arc Test: Rotate the test switch in the “Arc Test” direction to check the ability of the Arc-Fault Circuit Breaker to detect arcing from phase to neutral (above normal levels needed to run appliances).
2. Short Test: Rotate the test switch in the “Short Test” direction to check the ability of the Arc-Fault Circuit Breaker to detect low level arcs from phase to ground.

CAUTION: The Arc-Fault Circuit Breaker must be supplied with power from the load center in order for the tests to function properly. If the power is on and either of these test fail to trip, the Arc-Fault Circuit Breaker may be unable to detect arcs. The circuit breaker is defective and should be replaced.

Troubleshooting Guidelines

Condition	Potential Cause	Solution/Action
Push-to-test switch will not trip circuit breaker.	<ol style="list-style-type: none"> 1. Circuit breaker is OFF. 2. Circuit breaker is tripped. 3. Load center is not energized. 4. Load center neutral (pigtail) is not connected to the neutral bus bar. 5. Circuit breaker is damaged. 	<ol style="list-style-type: none"> 1. Turn circuit breaker ON. 2. Reset the breaker by switching it OFF and then ON. 3. Check to be sure load center is energized. 4. Check neutral (pigtail) connection. 5. Replace circuit breaker.
Circuit breaker trips (handle in center position and trip flag appears).	<ol style="list-style-type: none"> 1. Circuit breaker is not installed correctly. 2. Circuit breaker is connected to "shared neutral" circuit. 3. An arc-fault condition exists on the branch circuit, or circuit breaker is damaged. 4. An overload condition exists on the branch circuit (circuit breaker ON with loads in service). 	<ol style="list-style-type: none"> 1. See installation instructions on reverse side. 2. Remove circuit breaker from "shared neutral" circuit. Wire the circuit with dedicated two wires plus ground. If shared neutral circuit is required, consider utilizing GE two-pole arc-fault circuit breaker. 3. Assess the current on the circuit drawn by all the loads by summing all branch amperages (divide the rated wattage of each load by 120). If this total is greater than the circuit breaker rating, the circuit is overloaded and some of the load should be removed. 4. Test for arc-fault by completing instructions below.

To test for arc-fault:

Unplug all items from the receptacles in branch circuit. Reset circuit breaker by pushing its handle to the OFF position and then to the ON position:

1. If breaker trips with all loads OFF: Check permanent electrical circuit wiring, arcing, poor insulation, shorted wires, wet connections, wet conduit, a neutral lead pinched to a grounded metal box, receptacle leakage, or other faults that could cause safety features in the breaker to open the circuit.
2. Switch ON one of the original loads. Reset the breaker. If breaker does not trip with this load ON, switch on an additional load. Repeat until breaker trips. Examine last additional load for possible faults.

Loads and/or wiring suspected of having faults should not be restored to service.

INSTALLING ELECTRICIAN'S INFORMATION

Installing electrician should add the following information:

Installer's Name

Installer's Address

Installer's Phone #

NOTICE: These instructions do not cover all details or variations in equipment nor do they provide for every possible contingency that may be met in connection with installation, operation, or maintenance. Should further information be desired or should particular problems arise that are not covered sufficiently for the purchaser's purposes, the matter should be referred to the GE Company.



GE Industrial Systems

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