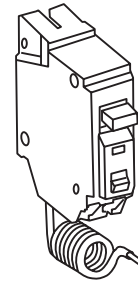




GEH-41543 Homeowner & Installation Instructions

Arc Fault Circuit Interrupter (AFCI)

Type THQ/THHQ
15A-20A, 1 Pole



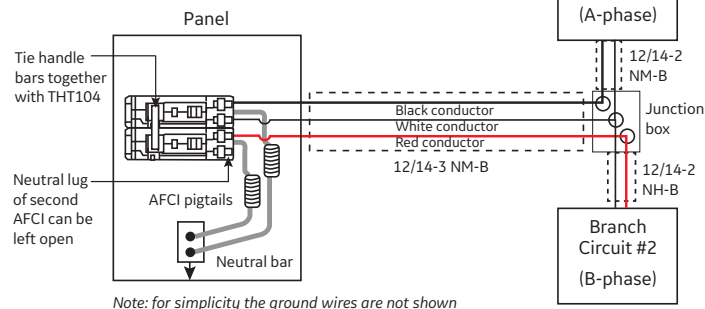
AFCI = Arc Fault Circuit Interrupter

Important Safety Instructions — Read All Instructions Before Using

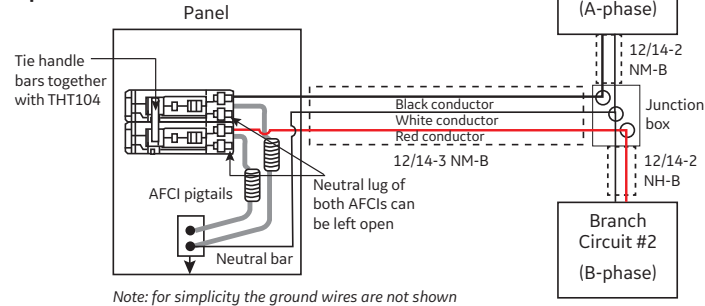
Intended Use

- Single-phase grounded 120Vac, 2-wire branch circuits or 120/240Vac shared neutral circuits when the neutral from separate branch circuits is combined to one neutral wire and returned to the load center neutral or either breaker.
- A handle tie is required for two single pole non-common trip breakers on shared neutral circuits. See wiring diagram below and download DET-719 from www.geindustrial.com for additional information.
- This equipment must be installed and serviced only by a qualified electrician.

Option 1



Option 2



WARNING: Failure to follow these instructions could result in death, personal injury, or property damage. See Troubleshooting Guidelines on the second page of this instruction sheet. This equipment must be installed and serviced only by a qualified electrician.

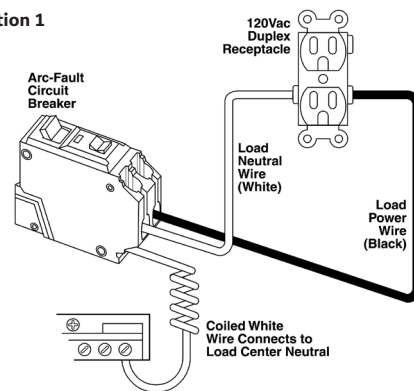
Installation Instructions

Install the Arc Fault Circuit Interrupter using the following procedure:

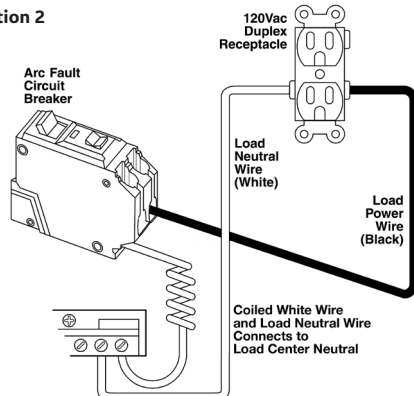
WARNING: Turn off power to main breaker before beginning installation. Failure to do so will risk electrical shock and possible death, personal injury, or property damage.

1. Open the Arc Fault Circuit Interrupter by moving its handle firmly to the "OFF" position.
2. Install and connect the AFCI into the load center by plugging or bolting the circuit breaker into the desired circuit position.
3. Connect the coiled WHITE "pigtail" wire from the AFCI to the panel or enclosure neutral bus terminal and secure it tightly. Uncoil pigtail as necessary. See connection diagram below.
4. Connect the WHITE (neutral) load wire to either the terminal side of the circuit breaker, identified by a silver colored terminal screw labeled LOAD NEUTRAL or the LOAD CENTER NEUTRAL. Note, wiring to load neutral terminal screws is optional and is included for wiring convenience.

Option 1



Option 2



(Installation Instructions continued on back)

Troubleshooting

Condition	Possible cause	Solution / Action
Push-to-test switch will not trip circuit breaker.	Circuit breaker is OFF.	Turn circuit breaker ON.
	Circuit breaker is tripped.	Reset the breaker by switching it OFF and then ON.
	Load center is not energized.	Check to be sure load center is energized.
	Load center neutral (pigtail) is not connected to the neutral bus bar.	Check neutral (pigtail) connection.
	Circuit breaker is damaged.	Replace circuit breaker.
Circuit breaker trips (handle in center position and trip flag appears).	Circuit breaker is not installed correctly.	See Installation Instructions on first page.
	An overload condition exists on the branch circuit (total current drawn exceeds rating of breaker).	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.
	An arc fault condition exists on the branch circuit or the circuit breaker is damaged.	Test for arc fault by completing "Arc Fault Functional Checks" instructions below.
	A load or combination of loads on the branch circuit emits a current signature that looks like a valid arc fault.	Contact GE for trouble shooting information (see below).

Installation Instructions *(continued)*

5. Connect the BLACK (hot) wire to circuit breaker terminals labeled LOAD, identified by a gold-colored terminal screw.
6. Turn on power and test the AFCI breaker using the test rocker switch on the front of the breaker. Follow Test Procedures as indicated in next section.
7. See Troubleshooting Guide above for the troubleshooting method to be used for a tripped AFCI.

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

CAUTION: The Arc Fault Circuit Interrupter (AFCI) 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 tests fails to trip, the Arc Fault Circuit Interrupter may not be able to detect arcs. The circuit breaker is defective and should be replaced.

Test Procedures

AFCIs should be tested regularly, at least once per month.

The test feature allows the homeowner to test the arc direction capability by depressing a rocker switch in two directions. The breaker has passed the test if the TRIP flag appears in the window. Use provided Test Record Chart DEH-41133 to record the dates the breaker(s) are tested.

- **Parallel Arc Test:** Rotate the test switch in the direction labeled "PAR ARC TEST" to check the ability of the Arc Fault Circuit

Interrupter to detect high current arcing line-to-neutral or line-to-ground.

- **Series Arc Test:** Rotate the test switch in the direction labeled "SER ARC TEST" to check the ability of the Arc Fault Circuit Interrupter to detect low current arcing in series with the load.

Arc Fault Functional Checks

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

1. If the breaker trips with all loads "OFF" check permanent electrical circuit wiring, arcing, poor insulation, shorted wires, wet connections, wet conduit, pinched neutral lead to a grounded metal box, receptacle leakage, loose connections 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.

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. See contact information below.

For troubleshooting or service related questions, contact GE at 1-800-782-8061.

Save These Instructions

GE
41 Woodford Avenue
Plainville, CT 06062
www.geindustrial.com

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