GE APPLIANCES SCAF15 AFCI Combination Arc-Fault Circuit Interrupter Instruction Manual

1TQC1130Z0001 HOMEOWNER & INSTALLER INFORMATION
Combination arc-fault circuit interrupter (AFCI)

Contents

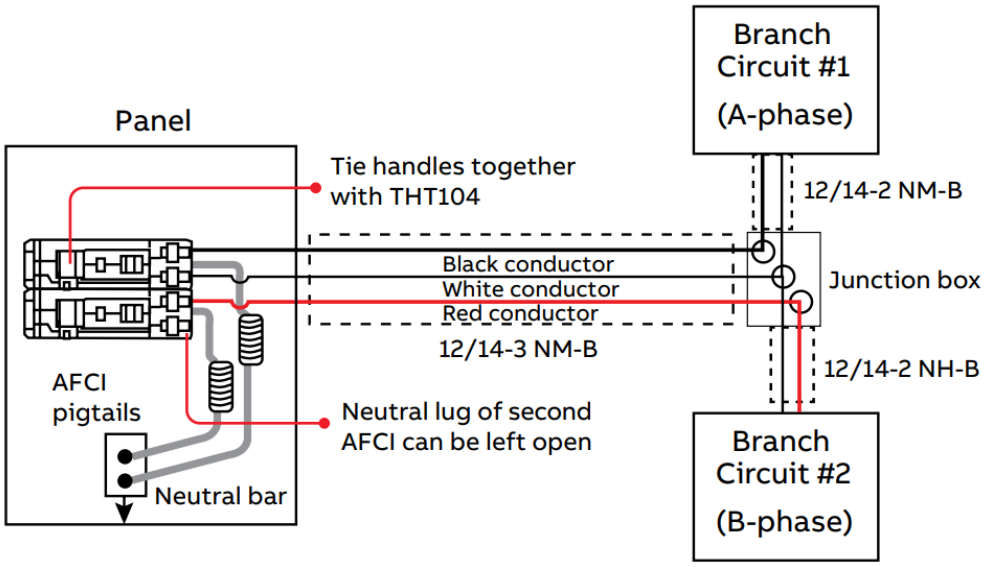
Installer instructions

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

- This circuit breaker is intended for use on either single-phase grounded 120Vac 2-wire branch circuits or on 120/240Vac or 120/208Vac shared neutral circuits where the neutral from separate branch circuits is combined to one neutral wire and returned to either breaker.

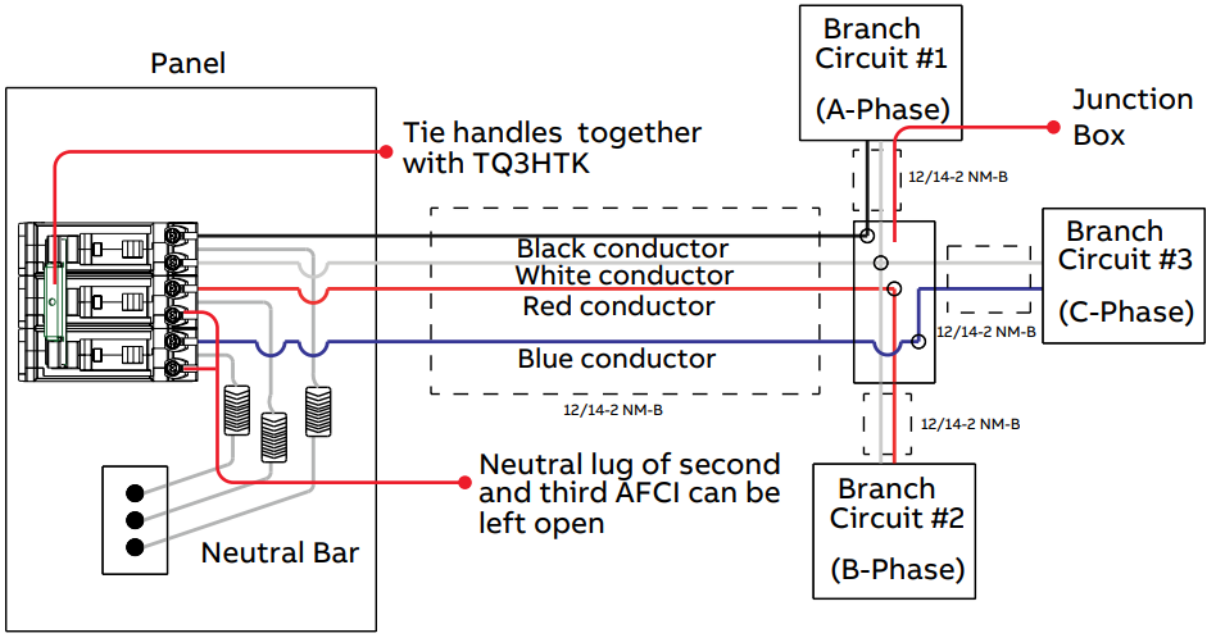
- A handle tie is required for 2 or 3 single-pole noncommontrip breakers on shared neutral circuits. See the wiring diagram below and download DET-719 from electrification.us.abb.com for additional information.

Single-phase wiring diagram



Note: for simplicity the ground wires are not shown

3-Phase wiring diagram



Note: for simplicity, the ground wires are not shown

- This equipment must be installed and serviced only by a qualified electrician.

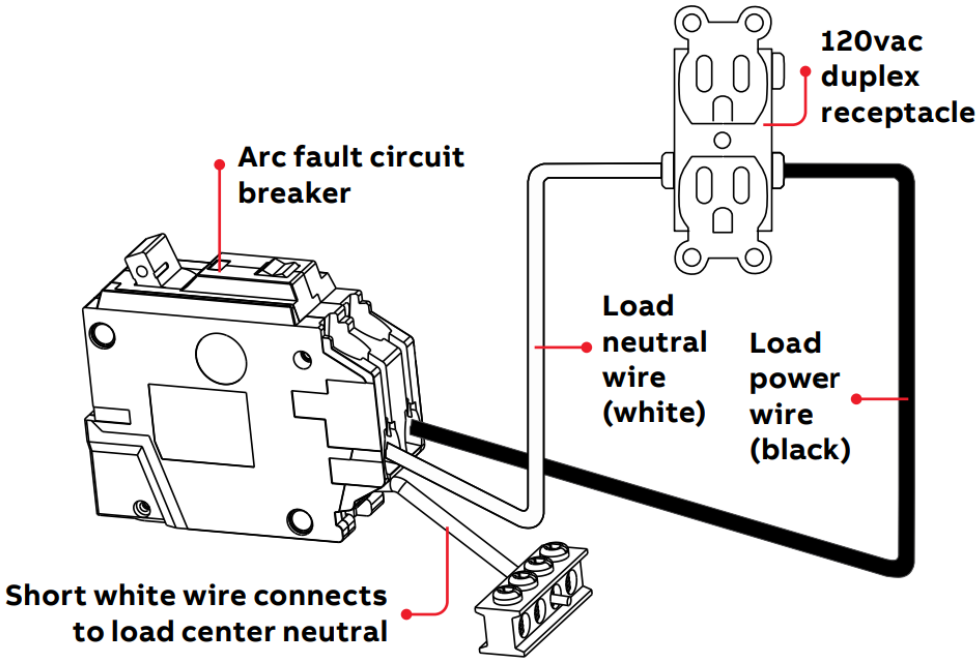
WARNING: Turn off the power to the main breaker before beginning installation. Failure to do so will risk electrical shock and possible death, personal injury, or property damage.

Arc-fault circuit interrupter (AFCI) installation instructions

Install the AFCI using the following procedure:

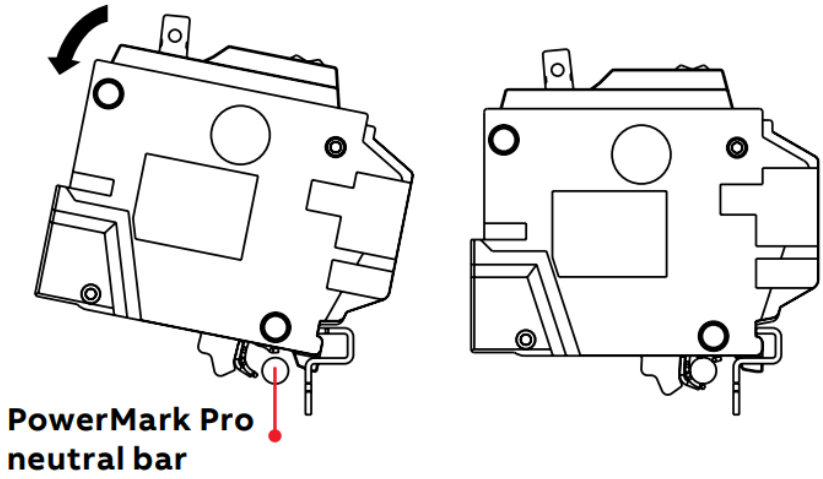
1. Open the AFCI by moving its handle firmly to the OFF position.
2. Install the AFCI into the load center by plugging or bolting the circuit breaker into the desired circuit position.
3. Connect the coiled white “pigtail” wire from the AFCI to the panel or enclosure neutral bus terminal and secure it tightly. Uncoil pigtail as necessary (see connection diagram)
4. Connect the white (neutral) load wire to the terminal side of the circuit breaker, identified by a silver-colored terminal screw, labeled LOAD NEUTRAL
5. Connect a black (hot) wire to circuit breaker terminals labeled LOAD, identified by a gold-colored terminal screw.
6. Turn on the power, then close and test the AFCI using the test rocker switch on the front of the breaker. Follow the Test The procedure is indicated in the next section.
7. See Troubleshooting Guides on the next page on how to troubleshoot an AFCI.

Arc-fault circuit interrupter wiring diagram



WARNING: Do not reverse-feed or back-wire. Do not subject to megger, high-voltage, or high-pot tests. Remove the circuit breaker before high-pot testing occurs on the circuit or the system.
NOTE: The neutral pigtail on CBS (AFCI, GFCI, and DFCI) can be cut to length in the field or extended using approved connectors. Additionally, eMCBs with shortened neutrals can be installed as shown providing a fast and clean installation.

PON panel neutral connection in PowerMark Pro only
IMPORTANT: Q-Line Plug-on Neutral (PON) eMCBs do not have a pigtail and can only be installed in PowerMark Pro Load Centers. The PON eMCB neutral stab will automatically connect to the panel’s integrated neutral bar during normal product installation. Please refer to the diagrams below.



Test procedures (AFCI should be tested regularly, at least once per month.)

The test feature allows the homeowner to test the arc detection 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 AFCI 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 AFCI to detect low current arcing in series with the load.

CAUTION: The 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 AFCI 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 the circuit breaker.	1. Circuit breaker is OFF. 2. Circuit breaker is tripped. 3. Load center is not energized. 4. The AFCI neutral (pigtail) is not connected to the neutral bus bar. 5. Circuit breaker is damaged.	1. Turn the circuit breaker ON. 2. Reset the breaker by switching it OFF and then ON. 3. Check to be sure the load center is energized. 4. Check the neutral (pigtail) connection. 5. Replace the circuit breaker.
Circuit breaker trips (handle in the center position and trip flag appears).	1. Circuit breaker is not installed correctly. 2. An overload condition exists on the branch circuit (the total current drawn exceeds the rating of the breaker). 3. An arc-fault condition exists on the branch circuit, or the circuit breaker is damaged. 4. A load or combination of loads on the branch circuit emits a current signature that looks like an arc fault.	1. See installation instructions on 1st page. 2. 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. 3. Test for arc fault by completing the instructions below. 4. Contact ABB (see contact information below) for troubleshooting information.

To test for arc fault:
Unplug all items from the receptacles in the branch circuit. Reset the 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 for arcing, poor insulation, shorted wires, wet connections, wet conduit, a neutral lead pinched 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 the breaker does not trip with this load ON, switch on an additional load. Repeat until the breaker trips. Examine the 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 ABB Company. See the contact information below.

For troubleshooting or service-related questions, contact ABB at 800-782-8061 or at
epis.component.support@abb.com

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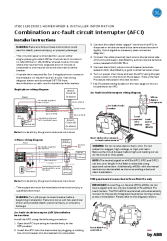	GE APPLIANCES SCAF15 AFCI Combination Arc-Fault Circuit Interrupter [pdf] Instruction Manual SCAF15, AFCI Combination Arc-Fault Circuit Interrupter, SCAF15 AFCI Combination Arc-Fault Circuit Interrupter, Combination Arc-Fault Circuit Interrupter, Arc-Fault Circuit Interrupter, Circuit Interrupter, Interrupter

References

- ABB US

Manuals+,