

Type BR (1") Combination Arc Fault Circuit Interrupter



Description

Beginning in 2008, the National Electrical Code requires all circuits feeding dwelling areas in residential structures to be protected by Combination Type Arc Fault Circuit Interrupters.

Eaton's Type BR (1") Combination AFCI is available in 15 and 20 Amp configurations and includes options for 22kAIC interrupting rating. Eaton has also made a diagnostic version of the BR Arc Fault which includes an LED, indicating the most recent trip code to assist in troubleshooting.

Design Features

- Compact Footprint as Standard
- Arc Fault Detection Methodology Tolerant of Non-compliant Devices
- Lifetime Trip Code retention
- Overvoltage Protection
- Continuous Self-Test of electronic components
- Available Diagnostic LED to access most recent trip code

Table 1. Type BR (1") CAFCI Selection Chart

Catalog Number	Amps	Poles	kAIC
Standard - Pigtail			
BRCAF115	15	1	10
BRCAF120	20	1	10
Diagnostic - LED			
BRACAF115	15	1	10
BRACAF120	20	1	10
High - Interrupting - 22 kAIC			
BRHCAF115	15	1	22
BRHCAF120	20	1	22

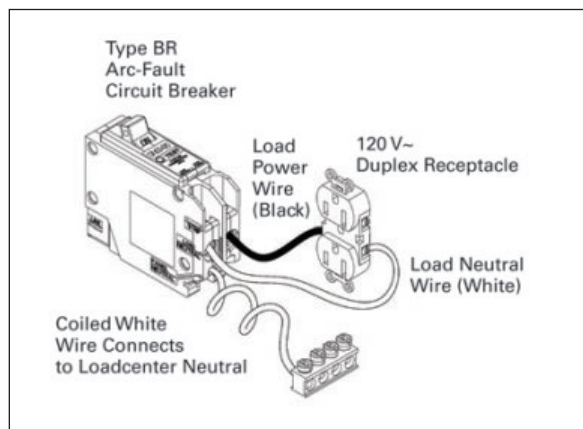
EATON

Powering Business Worldwide

Table 2. Specifications

Catalog Number	BRCAF115, BRCAF120, BRHCAF115, BRHCAF120, BRACAF115, BRACAF120
Voltage Requirement	$70 \leq V \leq 160$
Frequency Requirement	60 ± 2 Hz
Power Consumption	0.75W
Surge	In accordance with IEC 61000-4-5
Ambient Temperature	-31°C to 66°C (32°F to 151°F)
Humidity	0% to 93% humidity, non-condensing
Warranty	10 Year
Dimming Load	Up to 2,000 Watts verified compatibility with the following systems and controls: Lutron®: • HomeWorks® • RadioRA® • AuroRa® • Grafik Eye® • Wallbox dimmers
UL® Standards	UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures UL 1699 – Arc Fault Circuit Interrupters UL 1998 - Software in Programmable Components
UL File Number	E-7819

Installation



Wiring Diagram

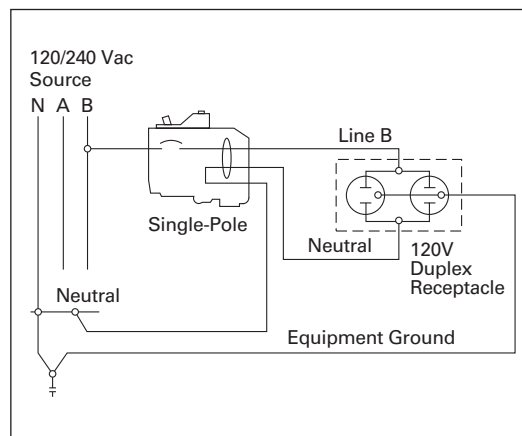
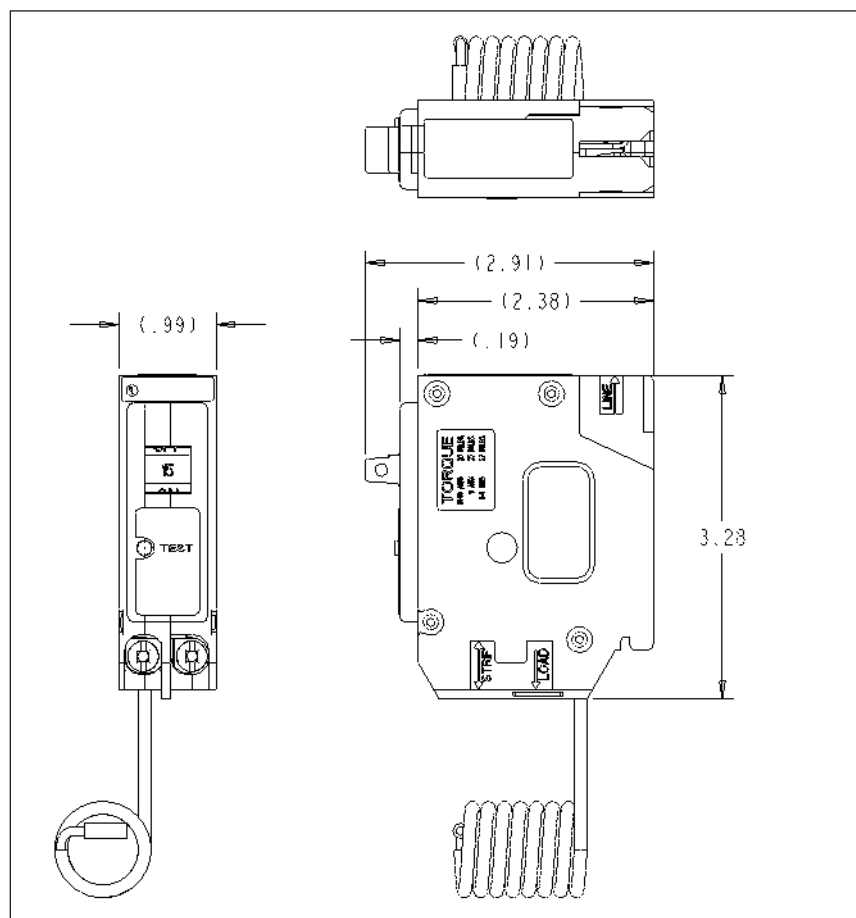

**1-Pole 120 Volt Load Application
Sourced by 120/240 Vac**

Table 3. Diagnostic Trip Codes (The following Trip Codes are displayed through the Diagnostic AFCI (Catalog number: BRACAFXXX))

Blink Pattern	Description
0	Mechanical Disconnect The breaker has detected an overload, short circuit or was manually turned off
1	Low Current Arc A low current "series" arc has been detected within one of the current pathways. These arcs are typically found in worn or degraded appliance and extension cords, poor connections in appliances or fixtures, or in contacts within equipment
2	High Current Arc A high current "parallel" arc has been detected between two conductors. These arcs are usually found in installed wiring where the wire has been compromised by a nail or screw, tight staple, damaged insulation.
3	Short Delay Short delay is an electronic backup to the short circuit mechanism
4	Overvoltage The breaker will trip if it experiences voltage of 160V RMS or greater. The breaker can be reset and the "TEST" button can be pushed to verify the breaker is working properly
6	Self Test Failure The breaker continually tests the internal electronics and software to ensure the arc fault detection technology is working properly. If the self diagnostics fail, the breaker will trip

Dimensions



Eaton Corporation
Electrical Group
1000 Cherrington Parkway
Moon Township, PA 15108
United States
877-ETN-CARE (877-386-2273)
Eaton.com

© 2012 Eaton Corporation
All Rights Reserved
Printed in USA
Publication No. TD003001EN
August 2012

The National Electrical Code is a registered trademark of the National Fire Protection Association.

Lutron, HomeWorks, RadioRA, AuroRA, and Grafik Eye are registered trademarks of Lutron Electronics Co., Inc.

All other trademarks are property of their respective owners.

Type BR (1") Combination Arc Fault Circuit Interrupter



Description

Beginning in 2008, the National Electrical Code requires all circuits feeding dwelling areas in residential structures to be protected by Combination Type Arc Fault Circuit Interrupters.

Eaton's Type BR (1") Combination AFCI is available in 15 and 20 Amp configurations and includes options for 22kAIC interrupting rating. Eaton has also made a diagnostic version of the BR Arc Fault which includes an LED, indicating the most recent trip code to assist in troubleshooting.

Design Features

- Compact Footprint as Standard
- Arc Fault Detection Methodology Tolerant of Non-compliant Devices
- Lifetime Trip Code retention
- Overvoltage Protection
- Continuous Self-Test of electronic components
- Available Diagnostic LED to access most recent trip code

Table 1. Type BR (1") CAFCI Selection Chart

Catalog Number	Amps	Poles	kAIC
Standard - Pigtail			
BRCAF115	15	1	10
BRCAF120	20	1	10
Diagnostic - LED			
BRACAF115	15	1	10
BRACAF120	20	1	10
High - Interrupting - 22 kAIC			
BRHCAF115	15	1	22
BRHCAF120	20	1	22

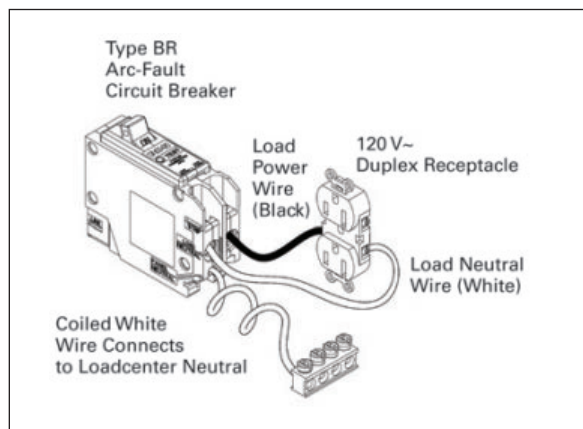


Powering Business Worldwide

Table 2. Specifications

Catalog Number	BRCAF115, BRCAF120, BRHCAF115, BRHCAF120, BRACAF115, BRACAF120
Voltage Requirement	$70 \leq V \leq 160$
Frequency Requirement	60 ± 2 Hz
Power Consumption	0.75W
Surge	In accordance with IEC 61000-4-5
Ambient Temperature	-31°C to 66°C (32°F to 151°F)
Humidity	0% to 93% humidity, non-condensing
Warranty	10 Year
Dimming Load	Up to 2,000 Watts verified compatibility with the following systems and controls: Lutron®: • HomeWorks® • RadioRA® • AuroRa® • Grafik Eye® • Wallbox dimmers
UL® Standards	UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures UL 1699 – Arc Fault Circuit Interrupters UL 1998 - Software in Programmable Components
UL File Number	E-7819

Installation



Wiring Diagram

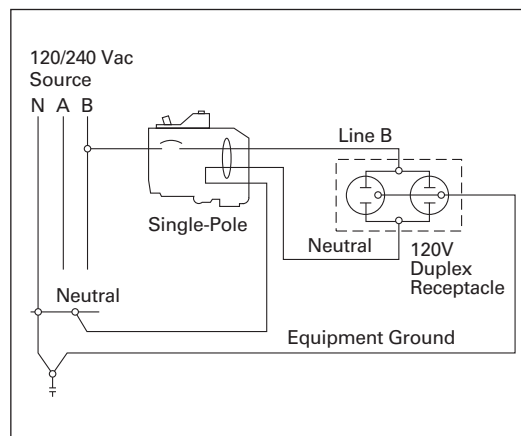
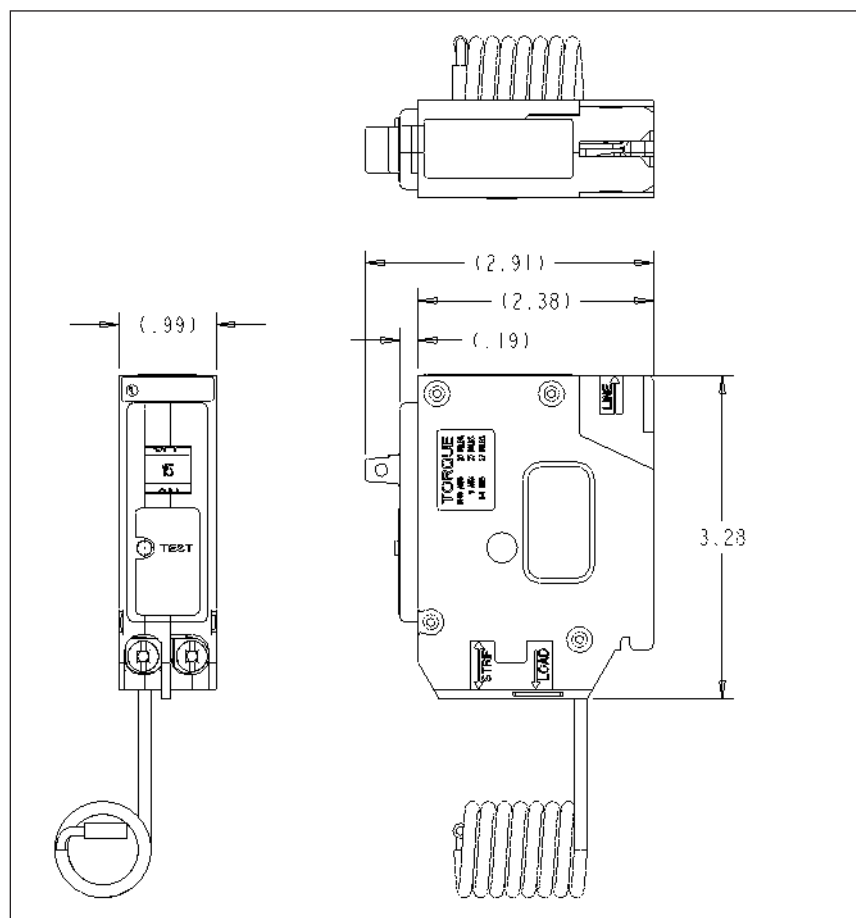

**1-Pole 120 Volt Load Application
Sourced by 120/240 Vac**

Table 3. Diagnostic Trip Codes (The following Trip Codes are displayed through the Diagnostic AFCI (Catalog number: BRACAFXXX))

Blink Pattern	Description
0	Mechanical Disconnect The breaker has detected an overload, short circuit or was manually turned off
1	Low Current Arc A low current "series" arc has been detected within one of the current pathways. These arcs are typically found in worn or degraded appliance and extension cords, poor connections in appliances or fixtures, or in contacts within equipment
2	High Current Arc A high current "parallel" arc has been detected between two conductors. These arcs are usually found in installed wiring where the wire has been compromised by a nail or screw, tight staple, damaged insulation.
3	Short Delay Short delay is an electronic backup to the short circuit mechanism
4	Overvoltage The breaker will trip if it experiences voltage of 160V RMS or greater. The breaker can be reset and the "TEST" button can be pushed to verify the breaker is working properly
6	Self Test Failure The breaker continually tests the internal electronics and software to ensure the arc fault detection technology is working properly. If the self diagnostics fail, the breaker will trip

Dimensions



Eaton Corporation
Electrical Group
1000 Cherrington Parkway
Moon Township, PA 15108
United States
877-ETN-CARE (877-386-2273)
Eaton.com

© 2012 Eaton Corporation
All Rights Reserved
Printed in USA
Publication No. TD003001EN
August 2012

The National Electrical Code is a registered trademark of the National Fire Protection Association.

Lutron, HomeWorks, RadioRA, AuroRA, and Grafik Eye are registered trademarks of Lutron Electronics Co., Inc.

All other trademarks are property of their respective owners.