Eaton BR120

Eaton Cutler-Hammer BR120 20A Single-Pole Circuit Breaker Instruction Manual

Model: BR120 | Brand: Eaton Cutler-Hammer

1. Overview

The Eaton Cutler-Hammer BR120 is a 20 Amp, single-pole, Type BR circuit breaker designed to protect electrical wiring from damage caused by overcurrent, which can result from an overload or a short circuit. This device is crucial for maintaining the safety and integrity of your electrical system.

Key features of the BR120 circuit breaker include:

- **Amperage Rating:** 20 Amps
- **Pole Configuration:** Single-pole, 1 inch wide
- **Voltage Rating:** 120/240 Volts
- **Compatibility:** UL approved replacement for Westinghouse, Challenger, and Bryant load centers.
- **Function:** Protects circuits from overheating due to overload and fault currents (short circuits).

2. Safety Information

WARNING: Electrical shock hazard. Improper installation or maintenance can result in serious injury or death. All electrical work should be performed by a qualified electrician in accordance with all national and local electrical codes.

- Always turn off the main power supply at the service panel before working on any electrical circuits.
- Verify that the power is off using a voltage tester before touching any wires or components.
- Ensure the circuit breaker's amperage rating matches the circuit's requirements.
- Do not use damaged or modified circuit breakers.
- Wear appropriate personal protective equipment (PPE), including insulated gloves and safety glasses.
- Ensure proper grounding and wiring connections.

3. Installation

Installation of circuit breakers should only be performed by a qualified electrician. The following steps are for informational purposes and highlight the general process.

1. **Prepare the Load Center:** Ensure the main power to the electrical panel is completely shut off. Open the panel cover.
2. **Identify Slot:** Locate an available slot on the bus bar within the load center.
3. **Connect Wire:** Connect the circuit wire (typically black or red) to the terminal screw on the circuit breaker. Ensure the wire is stripped to the correct length and securely tightened. Refer to the breaker's label for wire gauge compatibility and torque specifications.
4. **Attach Breaker:** Hook the rear clip of the breaker onto the retaining clip in the load center.
5. **Engage Bus Bar:** Firmly press the front of the breaker down until it snaps securely onto the bus bar. Ensure it is fully seated.
6. **Close Panel:** Once all connections are secure and verified, replace the panel cover.
7. **Restore Power:** Turn the main power back on.

Image 1: Front view of the Eaton Cutler-Hammer BR120 20A circuit breaker, showing the 'On/I' and 'Off/O' markings, the 20 Amp rating, and the Eaton brand logo. This view also displays the UL listing and Type BR designation.

Image 2: Angled view of the BR120 circuit breaker, highlighting the rear clip mechanism used for attachment to the load center's bus bar. The side label with detailed specifications like voltage (120/240V) and wire type (Cu/Al) is also visible.

Image 3: Bottom view of the BR120 circuit breaker, illustrating the terminal screw where the circuit wire is connected. This screw ensures a secure electrical connection.

Image 4: Packaging for the Eaton Cutler-Hammer Type BR 20 Amp Single Pole Circuit Breaker, indicating a quantity of 10. The packaging displays the brand, type, amperage, and compatibility information.

4. Operation

The BR120 circuit breaker operates with a simple toggle switch:

- **ON (I):** Pushing the toggle switch to the 'ON' or 'I' position closes the circuit, allowing electricity to flow.
- **OFF (O):** Pushing the toggle switch to the 'OFF' or 'O' position opens the circuit, stopping the flow of electricity.
- **TRIPPED:** If an overload or short circuit occurs, the breaker will automatically move to a tripped position, typically midway between 'ON' and 'OFF', or fully 'OFF' depending on the specific breaker design. This indicates that the circuit has been interrupted for safety.

To reset a tripped breaker:

1. First, identify and correct the cause of the trip (e.g., unplug overloaded appliances).
2. Move the breaker toggle firmly to the full 'OFF' position.
3. Then, move the toggle firmly to the full 'ON' position.

5. Maintenance

Circuit breakers generally require minimal maintenance. However, periodic visual inspection is recommended:

- **Visual Inspection:** Annually, with the main power off, inspect the circuit breakers for any signs of physical damage, discoloration, or loose connections.
- **Cleanliness:** Ensure the area around the breakers inside the panel is free from dust and debris.
- **Tightness:** Periodically check that terminal screws are tight. Do not overtighten.

If any issues are observed, consult a qualified electrician.

6. Troubleshooting

This section addresses common issues you might encounter with your circuit breaker.

Problem	Possible Cause	Solution
Breaker trips frequently	Overloaded circuit, short circuit, or faulty appliance.	Unplug some devices from the circuit. Inspect appliances for faults. If problem persists, consult an electrician.
Breaker will not reset	Persistent short circuit or internal breaker fault.	Ensure all devices on the circuit are unplugged. If it still won't reset, the breaker may be faulty and needs replacement by an electrician.
No power to circuit, but breaker is ON	Loose wiring connection, faulty outlet/switch, or internal wiring issue.	Check connections at outlets/switches. If not resolved, consult a qualified electrician to diagnose the wiring.

7. Specifications

Specification	Detail
Brand	Eaton
Model Number	BR120
Current Rating	20 Amps
Voltage Rating	120/240 Volts

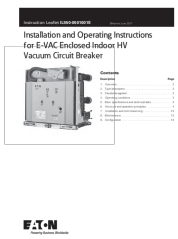
Specification	Detail
Circuit Breaker Type	Standard, Type BR
Mounting Type	Panel Mount
Number Of Poles	1
Material	Plastic
Product Dimensions	3 x 2.5 x 1 inches
Item Weight	4.8 ounces
UPC	643129363979

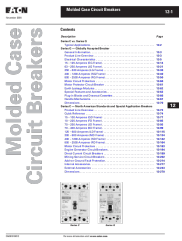
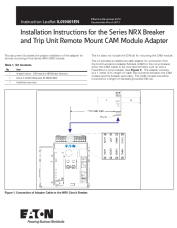
8. Warranty and Support

Warranty Description: This product comes with a Limited Warranty. For specific terms and conditions, please refer to the warranty documentation provided with your purchase or visit the official Eaton website.

For technical support, product inquiries, or warranty claims, please contact Eaton customer service. Contact information can typically be found on the Eaton official website or on the product packaging.

Related Documents - BR120

	Eaton Magnum LV-Air Circuit Breaker User Manual (1812.900A) Comprehensive user manual for the Eaton Magnum LV-Air Circuit Breaker (model 1812.900A), detailing installation, operation, maintenance, troubleshooting, and renewal parts. Covers fixed and drawout configurations with electronic tripping systems.
	Eaton E-VAC HV Vacuum Circuit Breaker Installation and Operating Instructions This guide provides essential installation, operation, maintenance, and technical details for the Eaton E-VAC Enclosed Indoor High Voltage Vacuum Circuit Breaker (Model IL550-0501001E), ensuring safe and efficient use in industrial and power grid applications.

	[Eaton Series G & C Molded Case Circuit Breakers: 15-2500A UL, CSA, IEC] Comprehensive catalog detailing Eaton's Cutler-Hammer Series G and Series C Molded Case Circuit Breakers (MCCBs). Covers product specifications, electrical characteristics, applications, and selection guides for breakers ranging from 15 to 2500 amperes, compliant with UL, CSA, and IEC standards.
	[Eaton Power Secure Selection Guide: Circuit Breakers and Motor Control Solutions] Discover Eaton's comprehensive Power Secure Selection Guide, featuring Air Circuit Breakers (PSL Series), Molded Case Circuit Breakers (PDC, BZM Series), Miniature Circuit Breakers (E6X Series), and D-Line Series for Motor Control & Protection. Find detailed product specifications, technical data, and selection information for electrical distribution and protection needs.
	[Installation Instructions for Eaton Series NRX Breaker and Trip Unit Remote Mount CAM Module Adapter] This document provides installation instructions for the Eaton Series NRX Breaker and Trip Unit Remote Mount CAM Module Adapter (IL019001EN). It details kit contents, connection procedures to the NRX circuit breaker and CAM module, and includes descriptions of diagrams illustrating the setup. Essential for proper remote mounting of CAM modules with Series NRX breakers.
	[Eaton 50/75/150DH-VR Replacement Circuit Breaker Instruction Book] Comprehensive instruction manual for Eaton's 50/75/150DH-VR replacement circuit breakers, covering receiving, handling, storage, installation, operation, maintenance, and troubleshooting. Essential guide for qualified personnel.