

Important Safety Instructions for Installing Remotely Operated Circuit Breaker

⚠ WARNING

DO NOT ATTEMPT TO INSTALL OR PERFORM MAINTENANCE ON EQUIPMENT WHILE IT IS ENERGIZED. TURN THE BREAKER HANDLE TO THE OFF POSITION REGARDLESS OF THE REMOTE CONTACT POSITION WHEN SERVICING EQUIPMENT. SEVERE PERSONAL INJURY, DEATH, AND/OR SUBSTANTIAL PROPERTY DAMAGE CAN RESULT FROM CONTACT WITH ENERGIZED EQUIPMENT. ALWAYS VERIFY THAT NO VOLTAGE IS PRESENT BEFORE PROCEEDING WITH THE TASK, AND ALWAYS FOLLOW GENERALLY ACCEPTED SAFETY PROCEDURES. EATON IS NOT LIABLE FOR THE MISAPPLICATION OR MISINSTALLATION OF ITS PRODUCTS.

The user is cautioned to observe all recommendations, warnings, and cautions relating to the safety of personnel and equipment, as well as, all general and local health and safety laws, codes, and procedures.

The recommendations and information contained here in are based on Eaton experience and judgement, but should not be considered to be all-inclusive or covering every application or circumstance which may arise. If any questions arise, contact Eaton for further information or instructions.

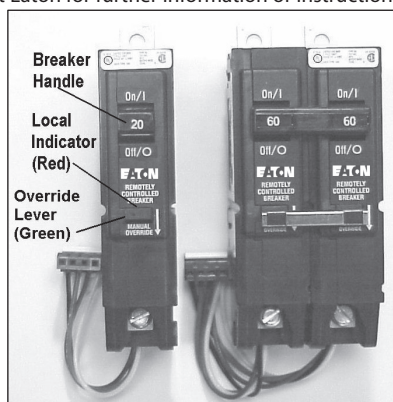


Figure 1. Eaton's Type BA Latching remotely operated circuit breaker.

There are five types of remotely operated molded case circuit breakers in Eaton's 120/240V family. The industrial bolt-on BABRP and BABRSP for use with bolt-on applications, the residential plug-in BRRP and BRRSP for use with BR load centers, and the residential plug-in CLRP for use with other load centers not manufactured by Eaton. The CLRP is compatible with breakers with a one inch wide format and are listed on the enclosed "Compatibility List for Classified Applications" publication.

Basic features of the breaker include:

- One pole, 120 V~, 15-50 amp
- Two pole, 120/240 V~, 15-50 amp
- 10,000 amps RMS interrupting
- Integral solenoid controlled contacts in series with a thermal-magnetic circuit breaker.

The 15 to 30 amp units are High Intensity Discharge (HID) rated circuit breakers with the 15 and 20 amp 1 poles being also listed as Switching Duty (SWD).

For normal operation, the breaker handle must be in the ON position. Once the remote harness is connected to the electrical controller, the breaker's controllable contacts are operated by supplying 24 V AC/DC to the blue

wire. Open the contacts by momentarily grounding the black wire. Close the contacts by momentarily grounding the red wire. Continuous grounding of a close or an open circuit is not permissible and will cause permanent damage to the control solenoid. Do not pulse the red and black wires simultaneously.

For manual operation, the override lever closes the operator contact. The operator contact can only be reopened by a remote signal. The override lever shows a red indication when the remote contacts are closed. (See Figure 1.)

Two internally-mounted auxiliary switches indicate status on the BABRSP and BRRSP models. These switches are connected in series. If both the remote and the breaker handles are closed/ON, the yellow wire will report the input voltage supplied from the blue wire. If either is open/OFF, no voltage will be present from the yellow wire. THE EXTERNAL LOAD CURRENT ON THE YELLOW WIRE MUST NOT EXCEED 0.5 AMPERES..

The breaker's thermal/magnetic mechanism is of Eaton's Quicklag design. The breaker handle will move to the center position indicating that it has tripped. The controlled contacts work independently from the breaker contacts. Opening and closing the remotely operated contacts with the breaker in the off or tripped position will not supply load power.

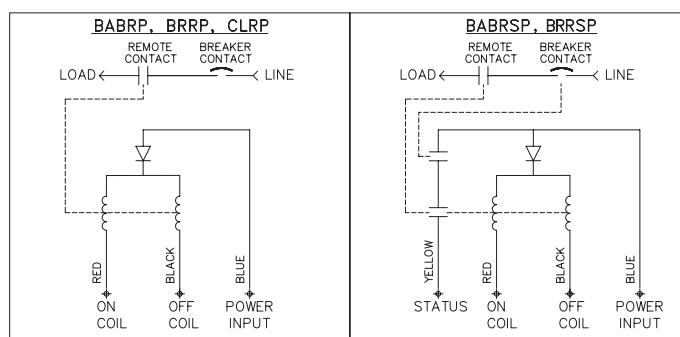


Figure 2. Control circuit for the BABRP, BRRP, CLRP, BABRSP and BRRSP.

Solenoid Operating Data

- Power requirements: 24V AC/DC (20.4V min – 30V max)
 - Controlled signal: +AC/DC 8 ms minimum with zero cross, 300 ms maximum.
 - AC: 1.3 cycles minimum, 18 cycles or 300ms maximum.
 - DC: 8 ms minimum, 300 ms maximum.
 - Maximum duty cycle of 6 OPEN/CLOSE cycles per minute.
- Current draw:
 - 15-30 amps, open 1 amp, close 3/4 amps.
 - 40-50 amps, open 2 amps, close 3/4 amps.
- Blue wire: Power input (see power requirements).
- Black wire: Remote opening.
- Red wire: Remote closing.
- Yellow: Feedback status from power input, Max 0.50 amp draw.

The BABRP and BABRSP carry the same series ratings as the Type BA breakers. The BRRP and BRRSP carries the same series ratings as the BR breakers. The CLRP carries no series ratings.

Circuit breakers are listed in accordance with Underwriters Laboratories, Inc. UL489 and Canadian Standards Association CSA22.2.

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