Magnum Energy, Inc.
2211 West Casino Rd.
Everett, WA 98204
www.magnumenergy.com

Introduction

The BR-DC75-BM and BR-DC100-BM are DC circuit breakers that can be used as disconnects for charge controllers and DC loads. The breaker is either a 75-amp (PN: BR-DC75-BM) or a 100-amp (PN: BR-DC100-BM). Both have a slotted bracket that allows them to be easily mounted to a mounting plate inside the MP (Magnum Panel) and MMP (Mini Magnum Panel) system enclosures.

These circuit breakers are magnetic-hydraulic, back-mountable, general purpose E-Frame type with front accessible pressure terminal connectors that accept #14 through #0 AWG copper or aluminum wire.

Info: These breakers are not 100% continuous duty rated. To use these breakers for continuous operation, they need to be derated to 80%. For example, the BR-DC75-BM (75 amp) breaker can be operated at 60 amps continuous (75 x .8 = 60 amp).

CAUTION: These breakers must be mounted in a vertical position to meet the specified trip current and trip delay curve.

Sizes shown in inches (mm)

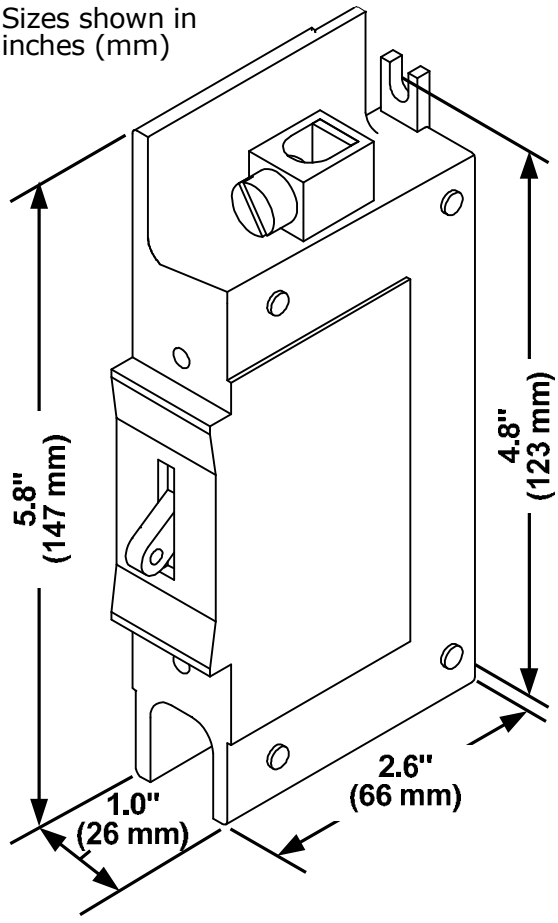

Figure 1, Physical Dimensions

Specifications

Approvals
- UL 489 Listed
- CSA Certified C22.2 No. 5

Interrupting Capacity
- 5,000 amperes at 125VDC
- 25,000 amperes at 65VDC

Trip Time Delay
- Delay 53 (DC long delay)

Recommended Torque:
- #14 to #18 AWG = 35 in. lbs.
- #8 AWG = 40 in. lbs.
- #6 to #4 AWG = 45 in. lbs.
- #3 to #0 AWG = 65 in. lbs.

Physical:
- Weight: ~9 oz. (255 grams)
- Dimensions: See Figure 1
- Terminals: front connected, AL9CU dual-rated, pressure terminals. Accepts #14 to #0 AWG copper or aluminum wire (both 60° C and 75° C rated).
- Mounting: Attaches to back mounting plate with #8-32 x 1/2" (T20 head) Torx screws through 6/32 mounting inserts (torque to 6-8 in. lbs.).

WARNING: During normal operation, terminals, busbars, and electrical components inside the MMP/MP enclosure may be energized - DO NOT TOUCH. Disconnect all power sources before removing the cover. Failure to take action could result in physical harm.

Installation Steps:

Info: The MMP enclosure is shown in Figure 2, however the installation is similar in MP installations.

1. Remove the breaker front panel cover only after all power has been removed from the MMP (Mini Magnum Panel) or MP (Magnum Panel) system.
2. Remove the DIN rail track on the breaker mounting plate by removing the #8-32 x 3/8" (T15 head) Torx screws holding this track.

Info: The holes in the mounting plate — for the Torx screws that hold the breakers — are NOT threaded. Prior to mounting the breaker, use a power-driver to pre-thread the holes in the mounting plate with the self-threading Torx screws (T20 head) provided.

3. After the holes in the mounting plate have been pre-threaded, place the back mount breaker(s) against the mounting plate and loosely secure them using the two #8-32 x 1/2" (T20 head) Torx screws provided. Do not fully tighten these Torx screws, that will be done in Step 5 after being aligned.
4. For each breaker installed, remove only the knockouts in the front panel cover that are needed for the width of the breaker. Each breaker uses a 1" opening, which requires removing 2 knockout slots (1 knockout = 1/2" slot).
5. Ensure each breaker aligns correctly into the spaces — made by the knockouts removed from the front panel cover — by placing the front panel cover over the DC breakers. If the fit and alignment are correct, use a hand driver to tighten the Torx screws to secure each DC breaker.

CAUTION: The slotted mounting brackets on the breaker are made of plastic. DO NOT OVERTIGHTEN the Torx screws used to hold the breaker to the mounting plate or the brackets may break. It is highly recommended to use a hand driver to tighten the screws.

The DC breaker is now installed and ready to be wired to the DC circuit.

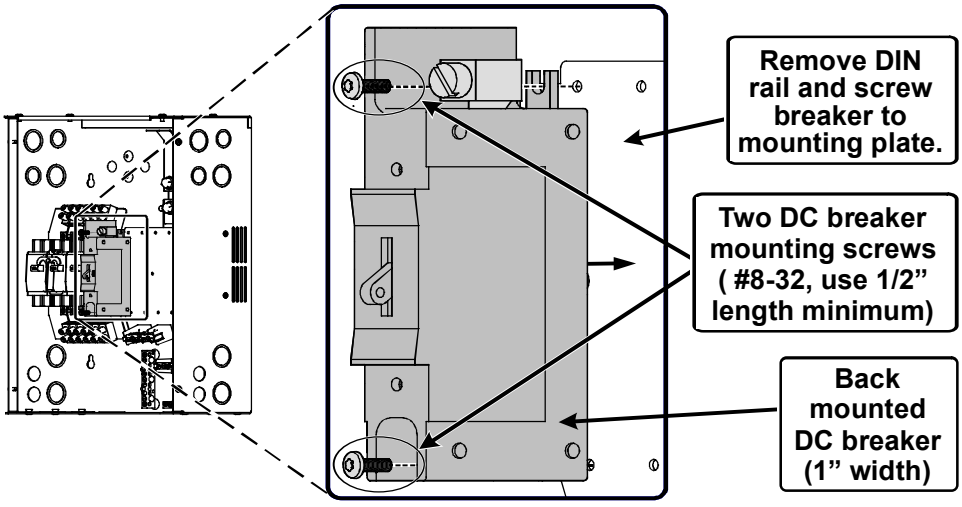

Figure 2, Installing Back Mounted DC Breakers

© 2013 Magnum Energy, Inc.