

Electrically Released Brake Module For EM-FBB and EUM-FBB

Installation Instructions

P-1337-1-WE
819-0317



 **Warner**[®]
Electric

An **Altra Industrial Motion** Company

Warner Electric's FBB series of Electrically Released Brake Modules are designed for brake only applications when mounted to the front of a NEMA C-face motor. The fail safe brake engages when power goes off.

EM 210-20 FBB
EM 215-20 FBB
EUM 210-20 FBB
EUM 215-20 FBB

⚠ WARNING Failure to follow these instructions may result in product damage, equipment damage, and serious or fatal injury to personnel.

⚠ CAUTION If brake is to be applied with the brake output shaft in a vertical position Warner Electric's application engineering should evaluate application.

If any problems should occur during adjustments or application questions arise please contact:

Technical Support at 1-800-825-9050. Monday through Friday 7:30 a.m. - 4:30 p.m. central time.

Mounting Instructions

Step 1: Mounting the Brake to a Motor

The brake module can be mounted directly to the motor as follows:

- A. Insert a key in the motor shaft keyway. Prick punch the end of the motor shaft keyway to prevent the key from sliding out.
- B. Align the motor shaft and key with the mating shaft hole and key slot in the brake module.
- C. Slide the module onto the motor shaft so the module surface is snug against the motor face.
NOTE: Brake Module should slide freely onto shaft and fit flush with motor C-face.
- D. Secure the brake module in the motor C-face with the four (4) long hex head capscrews. Suggested torque for capscrews is 30-35 lb.ft.

Step 2: Electrical Connections and Control Requirements

- A. The wiring diagram included with each Warner Electric control shows the proper electrical connections to be made.
- B. Controls used must have adjustable output voltage.
- C. All Permanent Magnet Type Electrically Released Brake Modules are polarity sensitive. Therefore, the (+) red wire must be connected to the (+) terminal and the (-) black wire to the (-) terminal.

90 Volt Brake recommended controls are:

CBC-160-1
CBC-160-2
CBC-300
CBC-500-90
CBC-550-90

24 Volt Brake recommended controls are:

CBC-500-24
CBC-550-24

Step 3: Burnishing and Maintenance

- A. No burnishing required, units are pre-burnished at factory.
- B. Improper voltage setting can reduce the braking life.
- C. Wear grooves appear on the friction surfaces. This is a normal wear condition, and does not impair functioning of the unit. Never machine the friction surfaces to remove grooves or score marks resulting from normal wear.
- D. Excessive heat and high operating temperatures are causes of rapid wear. Units should be ventilated as efficiently as possible.
- E. If brakes are used on machinery where fine, abrasive dust, chips or grit are dispelled, brake should be shielded.
- F. Where brakes are used near a possible oil contamination source, brake should be shielded.
- G. Oil and grease accidentally reaching the friction surfaces may be removed by wiping with a rag dampened with a suitable cleaner, which leaves no residue. In performing this operation, do not drench the friction material. If the friction materials have been saturated with oil or grease, no amount of cleaning will be effective. Replace brake.

Brake Release Adjustment

Instructions for setting the optimum release voltage of permanent magnet applied/electrically released brakes.

▲CAUTION The following procedure will result in the brake releasing and allowing the load to be free to move. Be sure the load is in a safe condition before proceeding with this process.

In a permanent magnet applied/electrically released brake, the attractive force between the brake surfaces is created by permanent magnets. The brake is electrically released by applying DC power to the electro-magnetic coil in the brake that opposes the permanent magnets. Electrically released brakes are polarity sensitive: the positive lead of the power supply must be connected to the positive (red) lead of the brake, and the negative lead of the power supply must be connected to

the negative (black) lead of the brake. The power supply applied to the brake must also be adjustable so that the optimum release voltage for each individual brake can be determined and set.

The following procedure describes how to set the adjustable power supply to the optimum release point of the brake. A volt-meter is required to perform the procedure.

▲CAUTION No power is applied to motor during this procedure. Power normally supplied by motor to brake control should be supplied by alternate method.

1. With power off, connect the positive lead of the power supply to the positive (red) lead of the brake and the negative lead of the power supply to the negative (black) lead of the brake.
2. Connect a volt-meter to measure the voltage applied across the brake.
3. Adjust the power supply to its lowest possible output, then energize the power supply only, to apply power to the brake.
4. Starting from the low point, slowly increase the applied voltage until the brake armature disengages from the magnet. Note and record the applied voltage at this point.
5. Continue to slowly increase the applied voltage until the armature re-engages the magnet. If the maximum voltage available from the supply does not cause the armature to re-engage, the armature should be manually assisted into engagement.
NOTE: If armature needs to be manually assisted, armature should be pressed on back side to make contact with friction face of magnet.
6. With the armature re-engaged, slowly reduce the applied voltage until the armature disengages from the magnet. Note and record the applied voltage at this point.
7. The optimum release point for the brake is half-way between the two recorded voltage readings. Adjust the supply to this optimum release voltage.
NOTE: The above procedure should be done by visually watching the armature move and may be repeated if necessary from Step 1 through Step 7.

Warranty

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This warranty extends only to the original purchaser and is not transferable or assignable without Warner Electric LLC's prior consent.

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