

MCS-805 Series Clutch/Brake Controls

Installation Instructions

819-0556
P-8854-WE



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

Introduction

Warner Electric's MCS-805-1 and MCS-805-2 series clutch/brake controls are designed for operation with Warner Electric electrically released brakes. The correct brake release voltage is a specific point between 35-75VDC. This point is set by adjusting the control at the time of brake installation. These controls are factory set for 60 volts output.

The MCS-805-1 and MCS-805-2 controls operate from 115/230VAC single phase input power. Switching may be provided on either the AC or DC side of the control.

The MCS-805-1 and the MCS-805-2 have an internal adjustment potentiometer that is used for the release band adjustment. The MCS 805-2 is similar to the MCS-805-1 except that it has torque adjustment capability for soft stop applications. The MCS 805-2 requires two switching circuits when used for those applications requiring soft engagement.

Specifications:

Input power:

- MCS-805-1 115/230VAC \pm 10%, 50/60Hz, single phase.
- MCS-805-2 115/230VAC \pm 10%, 50/60Hz, single phase

Output:

MCS-805-1 35-75VDC, 0.40 amps
MCS-805-2 35-75VDC, 0.40 amps

Switching inputs:

(external to control, supplied by customer)

- DC switching: single pole, single throw. Minimum contact rating 1 amp, 120 VDC.
- AC switching: single pole, single throw. Minimum contact rating 1 amp, 120 VAC.

Ambient temperatures:

-20° to 150°F (-29° to 65°C)

Circuit protection: (fusing)

500 ma Fuse-fast act (5 mm x 20 mm)

Adjustments:

Release band adjustment (via internal potentiometer)
MCS-805-2 only: Torque adjust (via external potentiometer)

Wiring Entrance:

Two 7/8" diameter conduit entrance holes located on the bottom and on the top of the control chassis.

Reorder Information

Model	Part No.
MCS-805-1	6090-448-006
MCS-805-2	6090-448-007

Mounting

Any vertical, horizontal, or angled surface is suitable for mounting the MCS-805-1 or MCS-805-2. Follow these procedures to mount your control:

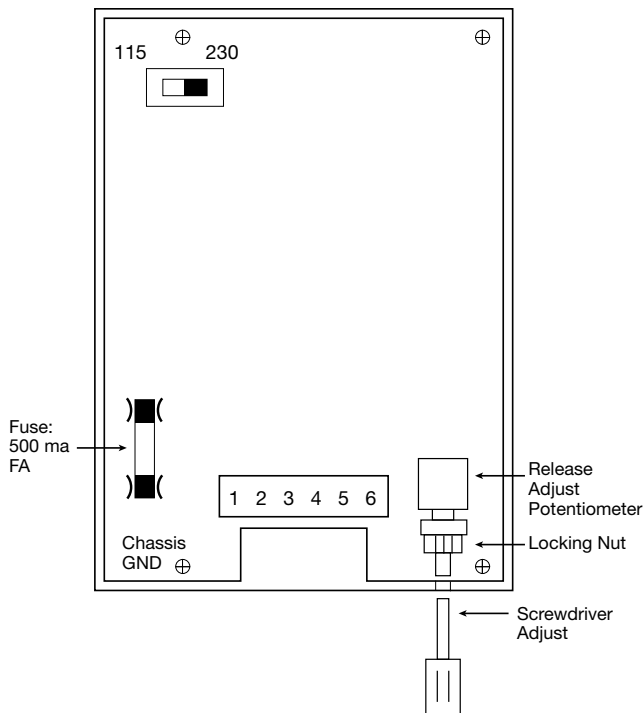
- Remove the front cover by removing the top retaining screws.
- Set the control on the mounting surface and mark for the four mounting holes in accordance with dimensions.
- Install and tighten the four screws.

The control is now ready to be wired.

⚠ WARNING To avoid injury (or even death), always make certain all power is off before attempting to install this control or any electrical equipment. Do not touch the board if power is applied.

Installation

- A. For 115VAC: Connect power supply to terminals 1 and 2. Insure AC input switch is in the 115 position. For 230VAC: Connect power supply to terminals 1 and 2. Insure AC input switch is in 230 position.
- B. A chassis ground should be provided as a non-current conducting ground wire (color coded green). Connect this ground to the PC board screw labeled "Chassis GND."
- C. Switching.
 - For switching DC side: switch must be connected to terminals 3 and 4. Switch open will allow brake to be engaged. Switch closed will release the brake. For MCS-805-2 Only: Switch open will allow brake to be partially engaged and AC power off will allow brake to be fully engaged.
 - For switching AC side: Line power off will allow brake to be engaged. Line power on will release brake. Install a jumper between terminals 3 and 4.
- D. Connect the positive terminal of the brake to terminal 6 on the control and the negative terminal of the brake to the terminal 5 on the control.



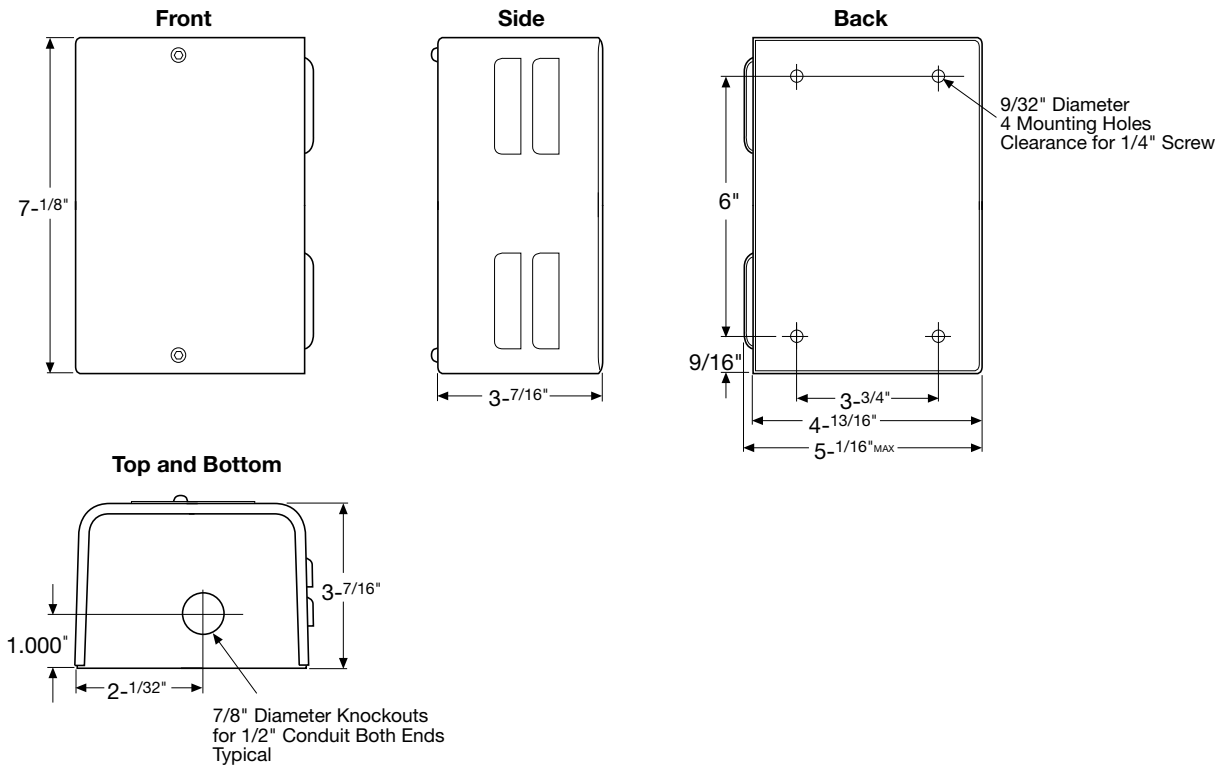
Brake Release Adjustment

When setting the MCS-805 control, the objective is to achieve armature release by adjusting the coil voltage so it counteracts the permanent magnet to the maximum extent possible. Proceed as follows:

- A. Remove the 3/8" hole plug from the housing for the release adjust potentiometer. While holding the potentiometer locking mechanism with 1/2" wrench, loosen the 7/16" locking nut on the adjustment potentiometer. Ensure user connected switch S1 is closed (see Connections on page 5). Turn on AC power. Turn the potentiometer adjusting screw (through access hole in enclosure) to the maximum counterclockwise position. Slowly turn the adjustment screw clockwise until the brake armature disengages from the magnet. If the usual autogap spring is used, this will normally cause the armature to separate approximately 1/32" from the magnet. If the autogap is not used, an external release force of approximately 5-10 pounds should be applied by hand, to detect the point of armature release. Using a voltmeter, note and record the voltage at this point.
- B. Turn the adjusting screw to the maximum clockwise position that will normally cause the armature to be reengaged. If the armature does not make contact, it should be physically moved into contact, with caution exercised to prevent fingers from being injured.
- C. Turn the adjusting screw slowly counterclockwise until the armature releases through the same technique as used under (A). Note and record the voltage, which will be somewhat higher than the value noted under (A). Adjust the final voltage setting to the mid-point between the two readings.
- D. While holding the potentiometer locking mechanism with 1/2" wrench, tighten the locking nut with 7/16" wrench. Plug access hole with 3/8" hole plug previously removed. The brake is then ready for normal operation.

For MCS-805-2 Only: Set partial engagement torque using the external potentiometer. Switch connected to terminals 3 and 4 must be open to make this adjustment. A setting of 10 gives maximum torque.

Dimensions

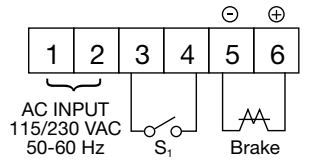


Connections

805-1 OPTIONS

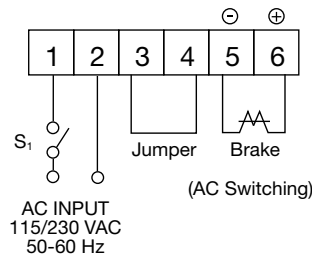
S₁ Closed - brake released
S₂ Open - brake engaged

Chassis
GND



(DC Switching)

Chassis
GND

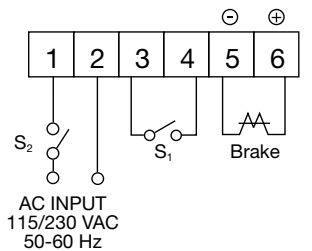


(AC Switching)

805-2 ONLY

S₂ Closed - brake released
S₂ Open - brake engaged
S₁ Closed - full engage volts
S₁ Open - reduced engage volts
(torque adjust)

Chassis
GND



Warranty

Warner Electric, Inc. warrants that it will repair or replace (whichever it deems advisable) any product manufactured and sold by it which proves to be defective in material or workmanship within a period of one (1) year from the date of original purchase for consumer, commercial or industrial use.

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

Warranty service can be obtained in the U.S.A. by returning any defective product, transportation charges prepaid, to the appropriate Warner Electric, Inc. factory. Additional warranty information may be obtained by writing the Customer Satisfaction Department, Warner Electric, Inc., 449 Gardner Street, South Beloit, Illinois 61080, or by calling 815-389-3771.

A purchase receipt or other proof of original purchase will be required before warranty service is rendered. If found defective under the terms of this warranty, repair or replacement will be made, without charge, together with a refund for transportation costs. If found not to be defective, you will be notified and, with your consent, the item will be repaired or replaced and returned to you at your expense.

This warranty covers normal use and does not cover damage or defect which results from alteration, accident, neglect, or improper installation, operation, or maintenance.

Some states do not allow limitation on how long an implied warranty lasts, so the above limitation may not apply to you.

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Changes in Dimensions and Specifications

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