

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

⚠ CAUTION Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

GENERAL SAFETY INSTRUCTIONS

⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock out power before installation and maintenance. Working on or near energized equipment can result in severe injury.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.
- Read and understand the information in this section and in this manual completely before installing, operating or maintaining this equipment. Failure to follow this instruction could result in severe injury or death.

⚠ CAUTION

- Perform periodic inspections. Equipment may fail prematurely and could become unsafe if not properly inspected and maintained. Failure to follow this instruction could result in mild or moderate personal injury.



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1.0 INTRODUCTION

The Warner Electric™ CBC-160 series clutch/brake controls are single channel devices designed to provide consistent and repeatable release of Warner Electric's Permanent Magnet 90 VDC Fail Safe Motor Brakes. The CBC-160 series may also be used with any Warner Electric 90 VDC clutch/brake.

The output to the clutch/brake is adjustable through a potentiometer embedded in the control. A red LED on the front of the CBC-160 unit indicates when power is applied and will vary in intensity with adjustment of the potentiometer. The CBC-160-2N operates from 230VAC and can come from either a single 230VAC line or from a 230/460VAC motor. The CBC-160-1N operates from a 120VAC source and can come from either a single 120VAC line or from a 120 VAC source in a 120V/240VAC motor. CBC-160 control series mounts as the cover to the standard module conduit box, part number 5370-101-042.

Re-order Information

Model	Part No.
CBC-160-1N	6013-448-001
CBC-160-2N	6013-448-002

Three optically isolated inputs provide full flexibility in interfacing customer supplied switching schemes. Internal circuitry provides suppression of transients during decay of the magnetic field to assure rapid cycle rates. Two LED indicators are provided on the control board for channel 1 and channel 2 indication.

2.0 SPECIFICATIONS

2.1 Input

CBC-160-1N	120 VAC, 50/60Hz, 1 Phase
CBC-160-2N	208-240 VAC, 60 Hz, 1 Phase

2.2 Output

CBC-160-1N	Single Channel, 0-100 VDC pulse width modulated full-wave rectified voltage, 0.8 amps maximum
CBC-160-2N	Single Channel, 0-110 VDC pulse width modulated full-wave rectified voltage, 0.8 amps maximum

2.3 Fusing (external to control, supplied by customer)

CBC-160-1N	1 amp, 250V-fast acting
CBC-160-2N	1 amp, 500V-fast acting

2.4 Switching

CBC-160-1N	Supplied by customer on AC input or accomplished through motor starter.
CBC-160-2N	Supplied by customer on AC input or accomplished through motor starter.

2.5 Ambient Temperature

-20° to 122°F (-29° to 50° C)

2.6 Certifications

UL, CUL, File E59164 Volume 3, Section 3

2.7 Cycle Rate

Consult the Application Engineering section of the Warner Electric Catalogs, P-8586-WE, P-8587-WE, P-8588-WE, P-8589-WE, P-8590-WE or P-1264-WE, for capabilities of your application.

3.0 INSTALLATION

WARNING! To avoid injury, always make certain all power is off before attempting to install this control or any electrical equipment.

3.1 CBC-160-1N Wiring, AC Input

- If using a single source 120VAC input not from an AC motor, connect the black/red wire to the hot side of the 120VAC power through the switch and fuse. Connect the white wire to the neutral side of the AC power. Refer to (Figure 1) for wiring connections.
- If wiring to a motor for operation with an electrically released brake, refer to (Figures 2 and 3) for correct wiring for either 120/230VAC motor connections.

3.2 CBC-160-2N Wiring, AC Input

- If using a single source 230VAC input not from an AC motor, connect the black/red wire to the one side of the 230VAC line through the switch end fuse. Connect the white wire to the other 230VAC line.

NOTE: On 230VAC single phase, connection from either line to neutral will produce only 120VAC. Refer to (Figure 1) for wiring connections.

- If wiring to a motor for operation with an electrically released brake, refer to (Figures 4 and 5) for correct wiring for either 230/480VAC motor connections.

3.3 Brake to Control wiring. Connect the brake (or clutch) wires to the solid red wire (positive) and red with white striped wire (negative) of the control.

3.4 The control is factory adjusted for 80 VDC. For Electro Module Fail Safe Motor Brakes adjust the potentiometer as needed for optimal brake release when power is applied to the control. For all other types of brakes and clutches adjust the potentiometer for the required torque in your application.

NOTICE: This is a floating-type control and is not referenced to AC ground. Under no circumstances should any of the output wire leads be connected to earth or chassis ground or shorted together, as the unit will be destroyed.

4.0 WIRING

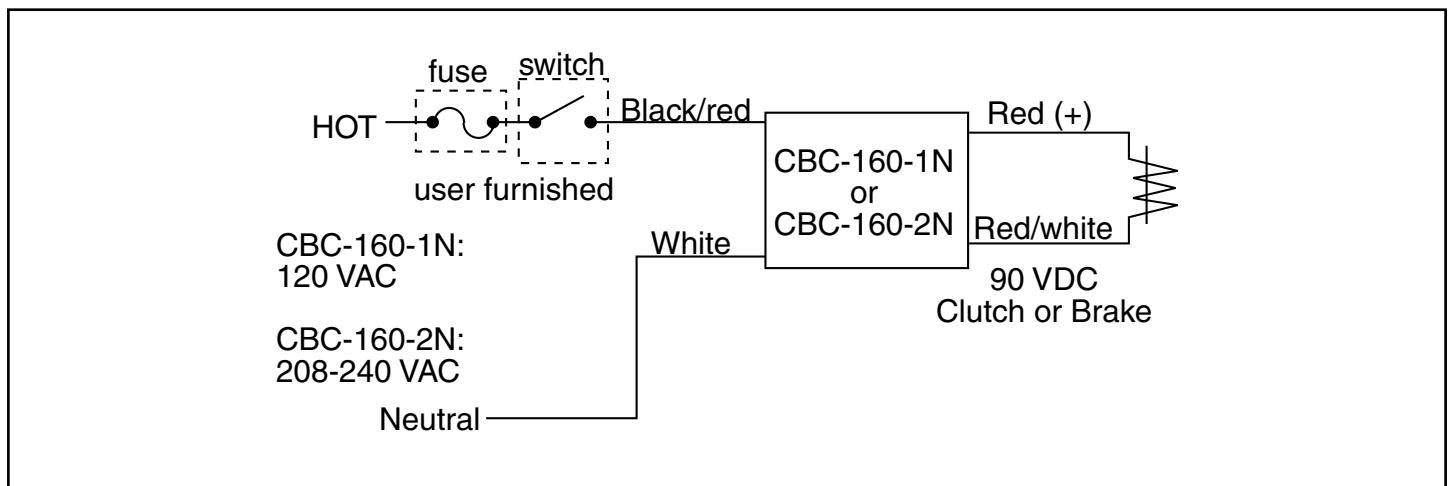


Figure 1

5.0 CONNECTION DIAGRAMS

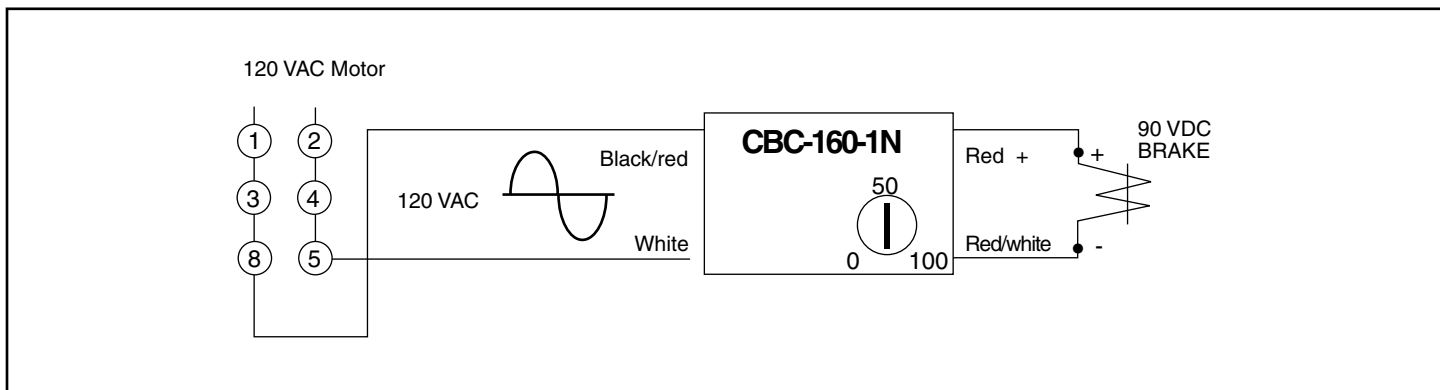


Figure 2

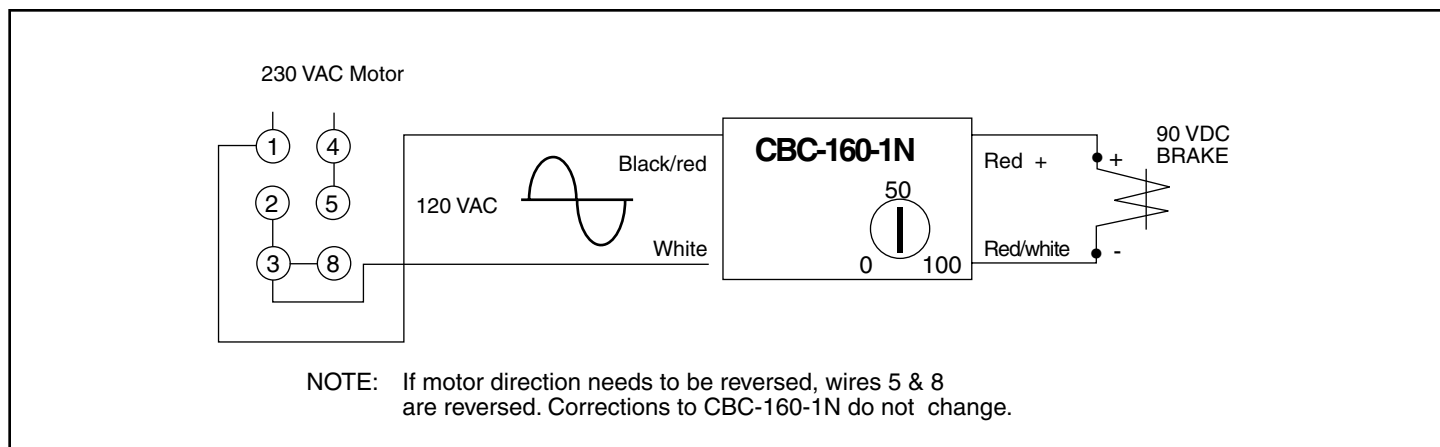


Figure 3

6.0 WYE CONNECTED MOTOR

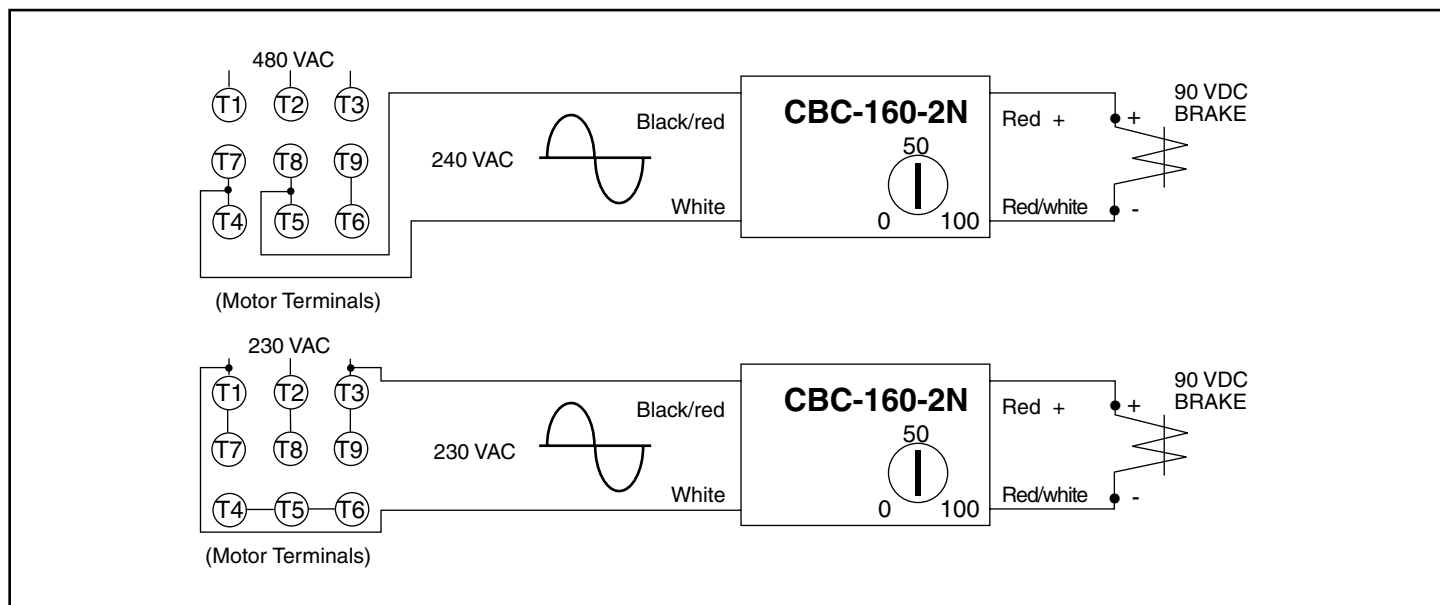


Figure 4

7.0 DELTA CONNECTED MOTOR

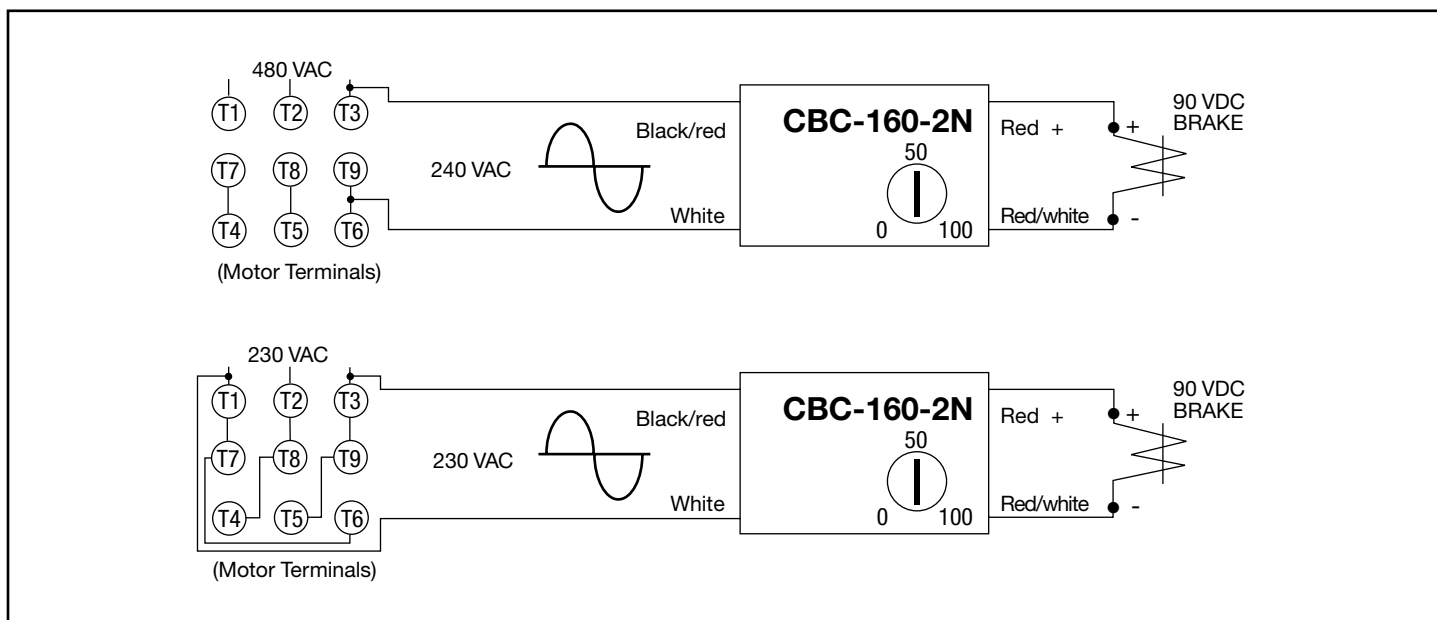


Figure 5

8.0 DIMENSIONAL DATA

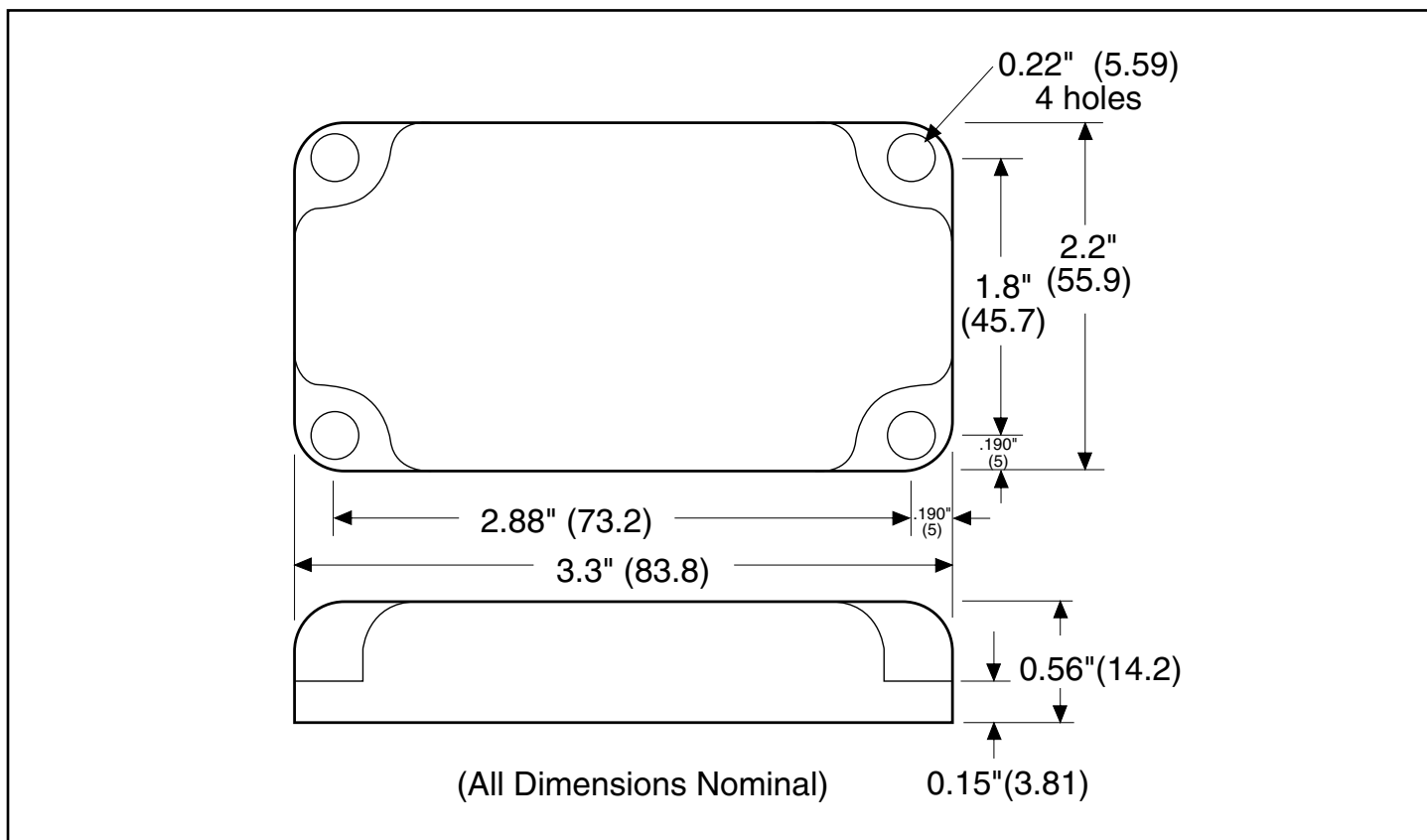


Figure 6

Warranty

Warner Electric LLC 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 LLC'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 LLC factory. Additional warranty information may be obtained by writing the Customer Satisfaction Department, Warner Electric LLC, 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.

Warner Electric LLC's obligation under this warranty is limited to the repair or replacement of the defective product and in no event shall Warner Electric LLC be liable for consequential, indirect, or incidental damages of any kind incurred by reason of the manufacture, sale or use of any defective product. Warner Electric LLC neither assumes nor authorizes any other person to give any other warranty or to assume any other obligation or liability on its behalf.

WITH RESPECT TO CONSUMER USE OF THE PRODUCT, ANY IMPLIED WARRANTIES WHICH THE CONSUMER MAY HAVE ARE LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL CONSUMER PURCHASE. WITH RESPECT TO COMMERCIAL AND INDUSTRIAL USES OF THE PRODUCT, THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Changes in Dimensions and Specifications

All dimensions and specifications shown in Warner Electric catalogs are subject to change without notice. Weights do not include weight of boxing for shipment. Certified prints will be furnished without charge on request to Warner Electric.