



**BN Products-USA™**

A DIVISION OF BENNER-NAWMAN, INC.

## SIGMA ELECTRICAL INSTRUCTIONS



### **IMPORTANT ELECTRICAL INSTRUCTIONS**

#### **PLEASE READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY**

**FAILURE TO DO SO WILL VOID THE WARRANTY ON  
THIS MACHINE, AND MAY CAUSE INJURY OR DEATH**

- **High Voltage** see Page 2
- **Low Voltage** see Page 4

This machine may be configured to use “low voltage” or “high voltage.” It is necessary to understand the configuration for each mode on this machine.

**Failure to complete proper configuration and wiring may result in damage, fire, or injury when using this machine.**

- If the wiring configuration in this document is not explicitly followed, BN Products-USA™ considers the warranty on the machine to be VOID.
- The customer is solely responsible for using a licensed and qualified electrician that can configure three-phase power in setting up this machine for use.

1) **Determine Voltage Level** - this is the critical first step:

- Voltage between 440V - 460V requires high-voltage wiring
- Voltage between 220V and 230V requires low-voltage wiring

2) **Measure the voltage at the source from line to line to determine if you are within the range(s) noted above.** This task must be performed by a qualified electrician.

- Once the voltage level is confirmed - it is necessary to verify that the machine is correctly wired for the verified voltage level.

**Do not make any electrical connection to the machine until the line voltage has been verified AND the machine is properly wired to the specific voltage level (high or low voltage mode).**

**DO NOT ASSUME THAT THIS MACHINE  
IS PRE-WIRED FOR THE PROPER VOLTAGE LEVEL**



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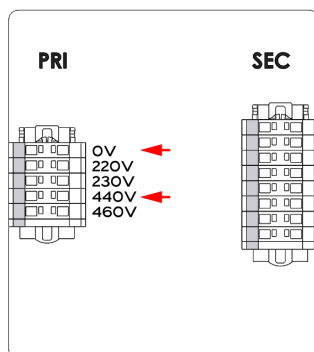
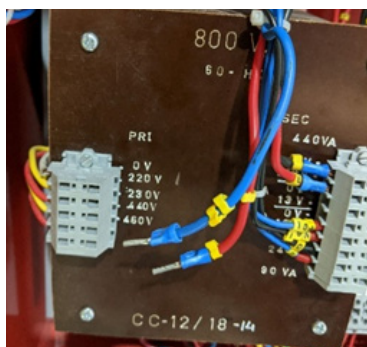
### HIGH VOLTAGE WIRING INSTRUCTIONS (440V - 460V)

#### A - Terminal Block Wiring

The terminal block on the transformer labeled “Primary” is the first place where voltage must be correctly configured. This is the input from the power source. **This connection must match the confirmed voltage that was determined during the line test described on page 1.**

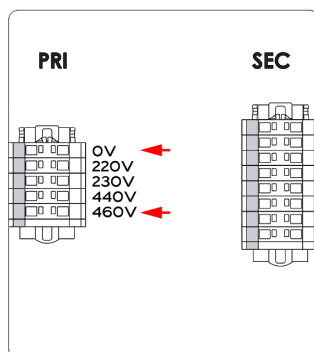
Example #1: If the measured voltage is closest to 440v, then the red wire shown must be inserted in the tap labeled 440V.

- The blue wire must remain in the 0V location.
- Do not make any changes to the wiring configuration on the secondary terminal block.



Example #2: If the measured voltage is closer to 460V, then the red wire shown must be placed in the tap labeled 460V.

- The blue wire must remain in the 0V location.
- Do not make any changes to the wiring configuration on the secondary terminal block.





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### HIGH VOLTAGE WIRING INSTRUCTIONS (440V - 460V)

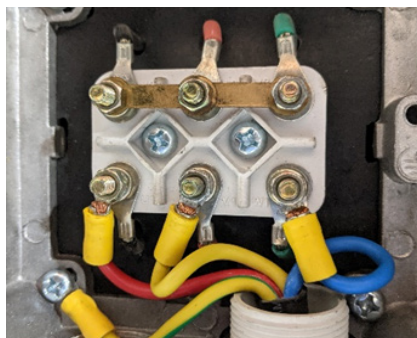
#### B - High Voltage Connection

The next step is to verify the connection type at the motor:

- Ensure the machine is NOT connected to power
- Remove the four screws holding the motor cover
- Once The cover is removed, two wiring diagrams listed on the cover.
- The one on the right with the WYE symbol (  $\Delta$  ) is for high voltage wiring.
- The corresponding number/letter combo is stamped in the terminal block on the motor.
- Next, use the copper bus bars to make the connection as shown in the picture below, and the matching diagram on the motor cover.



Motor Cover



Connection Block

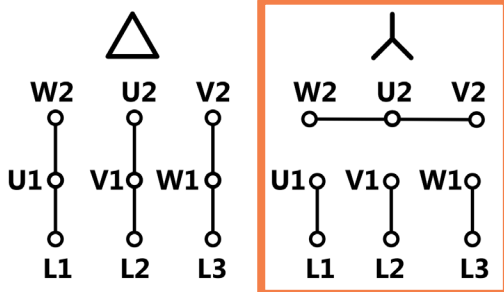


Diagram (Inside Motor Cover)



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## SIGMA ELECTRICAL INSTRUCTIONS

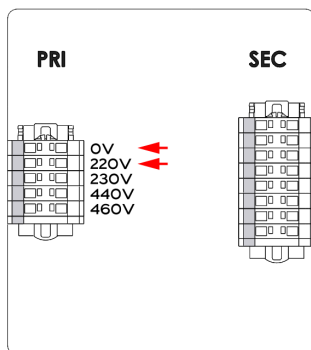
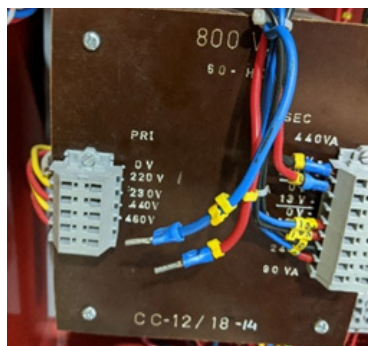
### LOW VOLTAGE WIRING INSTRUCTIONS (220V - 230V)

#### A - Terminal Block Wiring

The terminal block on the transformer labeled “Primary” is the first place where voltage must be correctly configured. This is the input from the power source. **This connection must match the confirmed voltage that was determined during the line test described on page 1.**

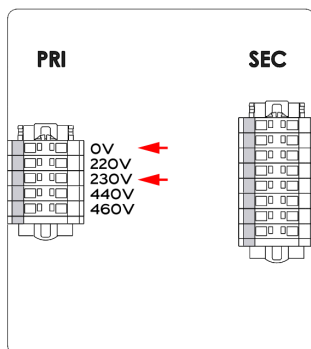
Example #1: If the measured voltage is closest to 220v, then the red wire shown must be inserted in the tap labeled 220V.

- The blue wire must remain in the 0V location.
- Do not make any changes to the wiring configuration on the secondary terminal block.



Example #2: If the measured voltage is closer to 230V, then the red wire shown must be placed in the tap labeled 230V.

- The blue wire must remain in the 0V location.
- Do not make any changes to the wiring configuration on the secondary terminal block.





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## SIGMA ELECTRICAL INSTRUCTIONS

### LOW VOLTAGE WIRING INSTRUCTIONS (220V - 230V)

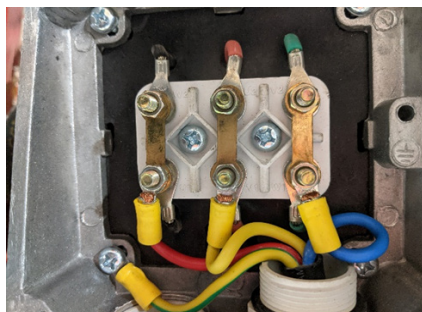
#### B - Low Voltage Connection

The next step is to verify the connection type at the motor:

- Ensure the machine is NOT connected to power
- Remove the four screws holding the motor cover
- Once The cover is removed, two wiring diagrams listed on the cover.
- The one on the left with the " $\Delta$ " (delta) symbol is for low-voltage wiring.
- The corresponding number/letter combo is stamped in the terminal block on the motor.
- Next, use the copper bus bars to make the connection as shown in the picture below, and the matching diagram on the motor cover.



Motor Cover



Connection Block

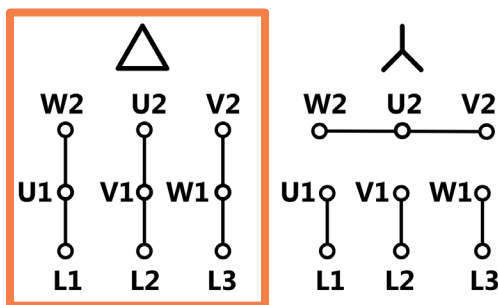


Diagram (Inside Motor Cover)



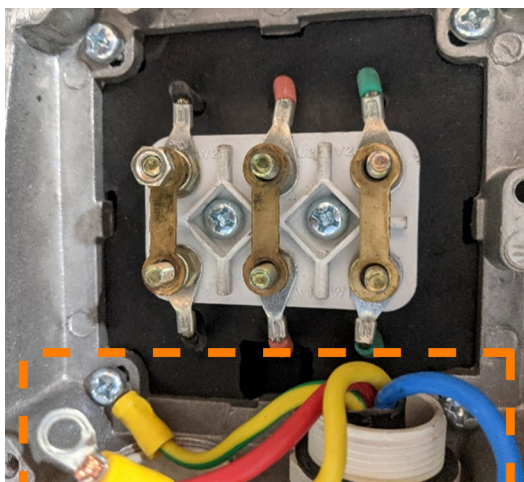
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## SIGMA ELECTRICAL INSTRUCTIONS

### Low-Voltage Connection (continued)

- Be certain to not move any of the motor winding wires when making a high/low adjustment. These wires must be left in their existing locations.





NOTES: \_\_\_\_\_

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NOTES: \_\_\_\_\_

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

**mail@bnproducts.com**