

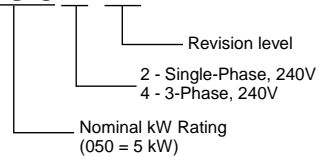


INSTALLATION INSTRUCTIONS FOR ELECTRIC FURNACES

General

The information on the following pages is to provide the installer the necessary information to properly install the *Unico System* electric furnaces.

WON0502-B



The electric furnaces are designed to provide primary heating or auxiliary heating in a heat pump system. The model numbers, kW, and Unico System match-ups are shown in the Table 1 below:

Table 1. Electric Furnaces

| Model Number | Nominal kW Rating | <i>Unico System</i> Match-up | Min. Airflow, CFM (m ³ /s) |
|------------------------|-------------------|------------------------------|---------------------------------------|
| WON0202-B | 2 | All sizes | 200 (0.10) |
| WON0502-B WON0504-B | 5 | | 250 (0.12) |
| WON0752-B WON0754-B | 7.5 | | 300 (0.14) |
| WON1002-B WON1004-B | 10 | 2430, 3036, 3642 and 4860 | 500 (0.24) |
| WON1502-B WON1504-B | 15 | | 600 (0.28) |
| WON2002-B | 20 | 3036, 3642 and 4860 | 800 (0.38) |

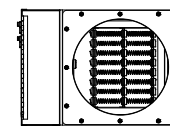
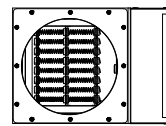
For a complete list of Unico's electric furnace specifications, please see *Bulletin 20-25*.

Location and Mounting

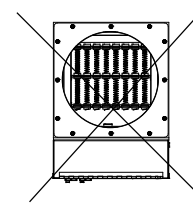
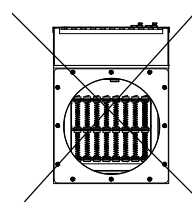
Before installing the furnace, inspect the unit thoroughly for shipping damage. Check all porcelain insulators for any breaks and inspect the furnace element wire to see that none have been deformed. Check the heating elements for loose connections that could cause overheating. If any shipping damage is found, notify the carrier immediately.

Install the furnace by attaching it directly to the air handler using the adapter collar provided with the furnace. Alternately the furnace can be placed in the duct system to act as a duct heater. For this configuration, an additional duct collar (see table 6 below) must be ordered to correctly

install the heater. In either configuration, position the unit so the arrow label on the cover of the electric furnace control box is in the direction of the airflow. The electric furnace control box can be placed on either side of the unit as shown in Figure 1.



Acceptable mounting positions in the horizontal configuration.



Non-Acceptable mounting positions in the horizontal configuration.

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Figure 1. Orientation of control box (Horizontal airflow)

Modular Blower Mounting Instructions: (MB2430L, MB3642L, and MB4860L)

1. Attach the adapter collar to the air handler centering the collar horizontally over the blower opening and flush with the bottom of the blower. Use the #10 x 3/8" type AB sheet metal screws located inside the bulletin packet shipped with the blower module to attach the adapter collar to the air handler. Leave the top of the unit clear of mounting screws to slide the restrictor plate in place. Slide the restrictor plate behind the adapter collar to the full open position (see Figure 2).

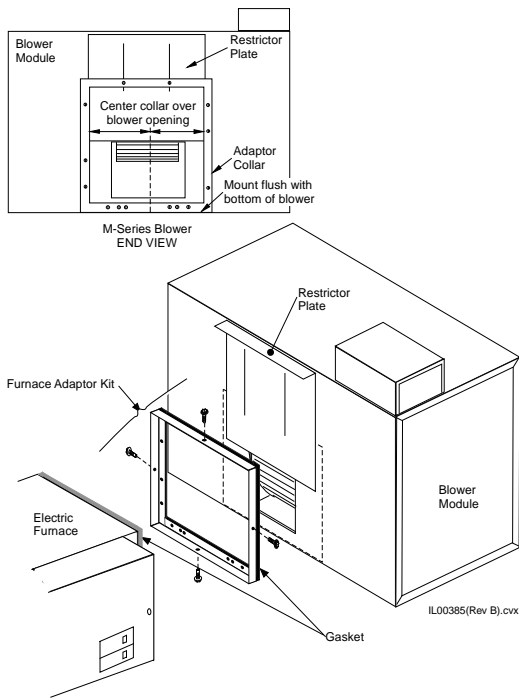


Figure 2. Furnace Installation

2. Insert the furnace into the furnace adaptor and secure it using the (4) #8 x 3/4 modified Phillips head self drilling screws shipped with the electric furnace. Adjust the restrictor plate to the proper airflow (refer to *Bulletin 30-20*) then use #10 x 3/8" type AB sheet metal screws located inside the bulletin packet shipped with the blower module to secure the restrictor plate in place.

3. If the furnace is not supported from underneath the unit, use a hanging strap to support the furnace by attaching one side to the top of the air handler and the other to the end of the furnace as shown in figure 3.

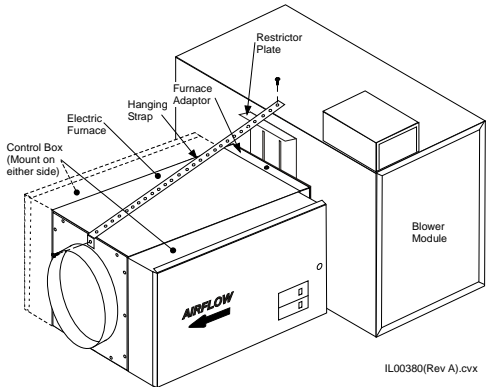


Figure 3. Hanging Strap Placement

Fancoil Mounting Instructions: (M1218)

Mounting the electric furnace on the M1218 fancoil utilizes the same furnace adaptor without the restrictor plate and hanging strap. Use the existing screws on the M1218 fancoil to mount the furnace adaptor to the unit as shown in Figure 4. Now insert the furnace into the furnace adaptor and install the 4 mounting screws as shown in figure 4.

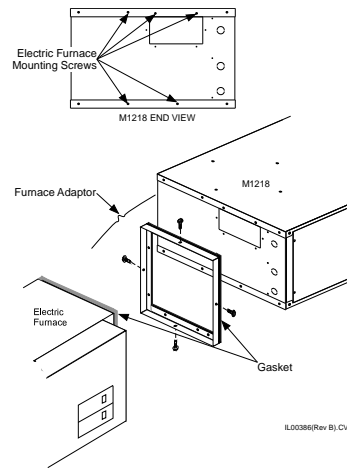
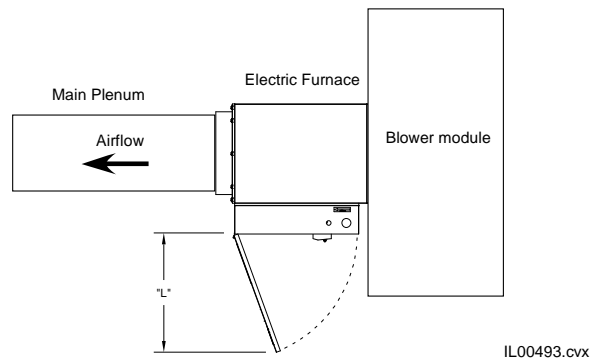


Figure 4. M1218 Electric Furnace Mounting

All furnaces are suitable for zero clearance between duct and combustible material. For servicing the control box, allow enough room (“L”) to swing the cover open and to service the blower module. See figure 5.

Service clearance for horizontal installations
(Top view)



| Models | L +1.0”/-0.0” |
|---|---------------|
| WON0202-B, WON0502-B | 12.0 |
| WON0752-B, WON1002-B | 15.0 |
| WON1502-B, WON0504-B, WON0754-B, WON1004-B, WON1504-B | 20.0 |
| WON2002-B | 23.0 |

Figure 5. Electric Furnace service clearance

The hinge is located on the electric furnace control box closest to the discharge end of the electric furnace.

CAUTION
DO NOT HANG UNIT DIRECTLY FROM HOUSING TO PREVENT DAMAGE TO THE ELECTRICAL ELEMENTS.

For horizontal applications, mount the furnace with the control box on either side as shown in Figure 3. For vertical installations, mount the electrical furnace control box in any position. The circuit breaker can be repositioned for vertical installations, if needed, so that the switch is in the down position when turned off.

Support the furnace on the rafters, floor, or platform with the air handler. If using a platform, make it large enough to support the entire furnace and air handler. Rest the platform on the floor or hang it with chains or cables. Refer to Bulletin 30-20 for mounting instructions.

For round metal plenum systems, use the correct diameter metal pipe adapter for you plenum size. For example, the 1218 and 2430 systems typically use 7-inch (178 mm), the 3642 system uses 9-inch (228.6 mm), and the 4860 systems use 10-inch (254 mm) diameter pipe. Figure 6 shows the installation of the Plenum adaptor (10-inch round plenum adaptor is already attached).

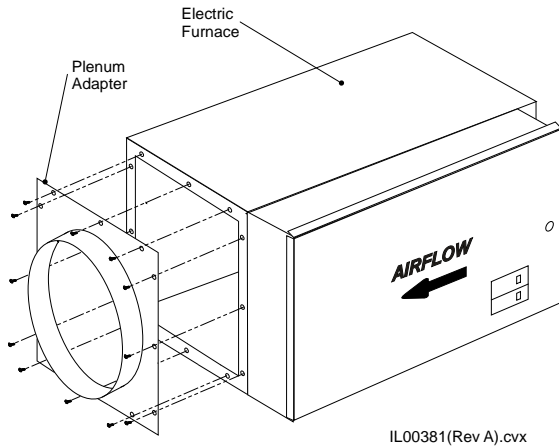


Figure 6. Start Collar Installation

Always allow a minimum of 24 inches (610 mm) of straight duct between the discharge side of the electric furnace and any tee or elbow as shown in figure 7.

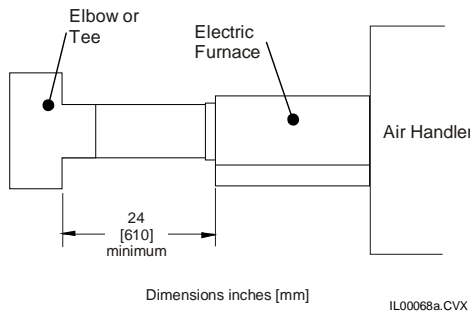


Figure 7. Location (top view)

The furnace also includes a 9½ × 9½-inch (241 × 241-mm) square plenum adapter. If the plenum is smaller, then use a reducer fitting. Fiberglass reducers are available to reduce the 9½-inch (241-mm) square duct to 8½-inch (216-mm) or 6½-inch (165-mm) square duct as shown in table 7. Alternately, the reducer can be eliminated if you use the metal plenum adapter shown in table 6.

The plenum adapters are designed to fit inside the square duct and are secured with sheet metal screws and washers. The joint must be sealed per UL-181A-M or UL-181A-P as seen in figure 8 to ensure an air tight system.

Note: All metal connections must be mechanically fastened with sheet metal screws and the joints and seams must be taped with UL-181A-P foil faced tape or sealed with UL-181A-M duct mastic.

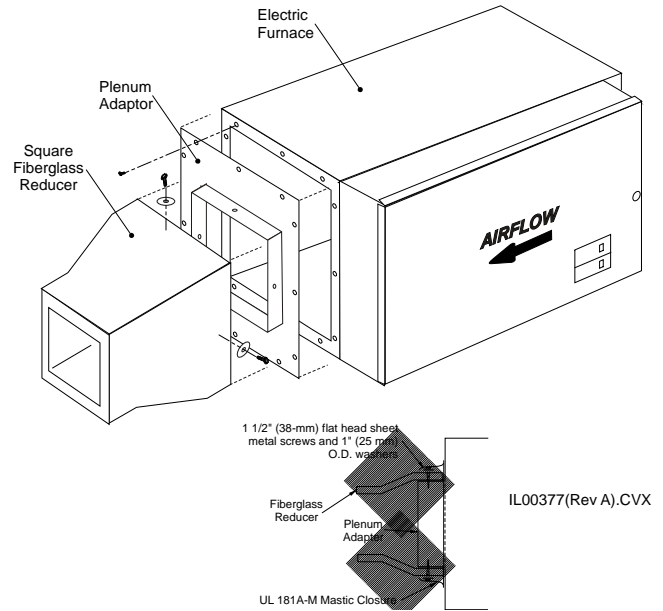


Figure 8. Square Duct Installation (Furnace shown with optional square plenum adapter)

Insulate all metal ducting with 1.5-inch (38-mm) minimum fiberglass insulation. For round duct, use either sleeve insulation or foil-faced duct wrap. For square duct use either fiberglass duct board or foil-faced duct wrap. Tape all seams to prevent air leaks.

When the furnace is installed in high humidity areas, such as an unconditioned attic or crawlspace, there is a possibility of condensation forming on the furnace cabinet during the cooling mode. To prevent condensation, cover the furnace with 1-inch (25-mm) foil faced fiberglass insulation or duct board. Be sure to allow access to the control box cover for servicing. See figure 9.

Insulate exterior cabinet except the control panel in high humidity areas with a minimum of 1.0" [25mm] thick fiberglass or foam rubber

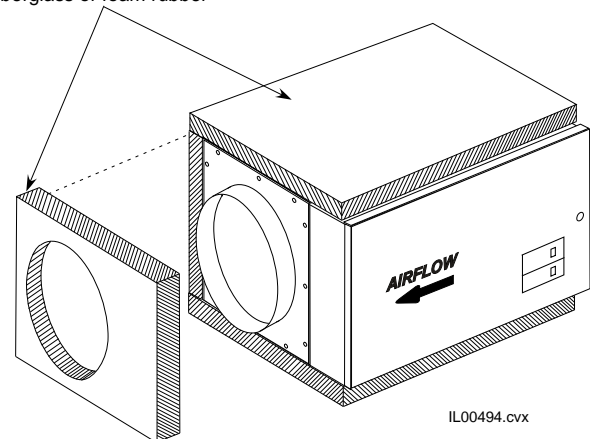


Figure 9. High humidity applications.

Tape all seams with UL 181-A-P aluminum tape.

WIRING

WARNING!

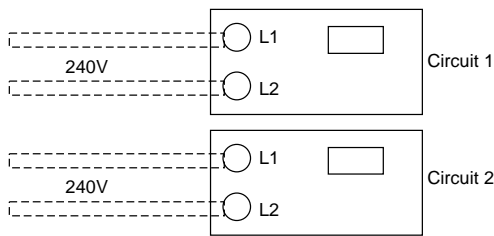
DISCONNECT ELECTRICAL SUPPLY BEFORE WIRING UNIT TO PREVENT INJURY OR DEATH FROM ELECTRICAL SHOCK.

All electrical wiring must comply with all local codes and ordinances. For single-phase furnaces, use the 15 amp breaker integrated into the furnace for the air handler power supply. For three-phase furnaces, use a separate single-phase 208/240V, 60 Hz power supply with appropriate amp fuse or breaker and wire gauge for the air handler.

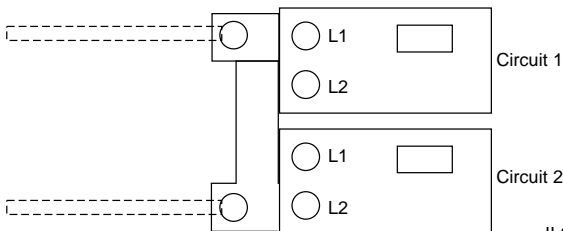
When using a *Unico* electric furnace, it will be necessary to either mount the blower control box on top of the blower cabinet or to a remote location near the blower module. Wire the air handling unit in accordance with *Bulletin 30-20, Installation Manual for M Series Modular Air Handler Units*, *Bulletin 30-24, Installation Instructions for M Series Modular Heat Pump System*, or *Bulletin 30-10, Installation Manual for M1218 Fan Coil*.

Open the furnace cover and connect the power supply to terminals L1 and L2 on the high voltage terminal block. Use Table 2 to select the correct wire gauge for the specific amperage of the furnace being installed. Connect a ground wire to the ground lug labeled G. Terminals M1 and M2 on the furnaces are for output power to the blower. For single phase 15 and 20kW heaters there are two breakers so you can wire one (single) or two (dual) line input circuits. (Figure 10) Refer to the label on the control box lid for specific wire sizes and amperage.

Dual circuit supply



Single circuit supply

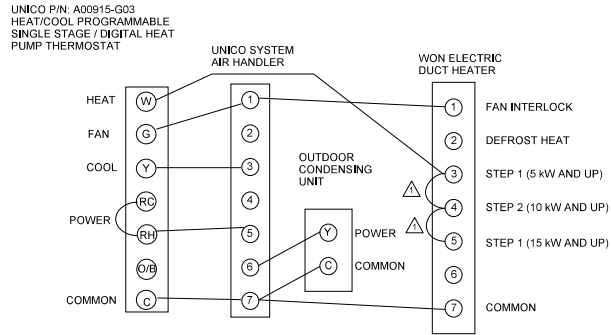


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Figure 10. Single or Dual circuit supply for 15kW and 20kW electric furnaces

Connect the 24V control wiring as shown in Figures 11 and 12. Use Figure 11 for heating-only or heating-cooling systems and use Figure 12 for heat pump systems. If using the *Unico* Advanced Control Board, refer to the Advanced Control Manual for 24V control wiring diagrams.

CONTROL WIRING DIAGRAM FOR COOLING ONLY UNICO SYSTEM WITH ELECTRIC HEAT

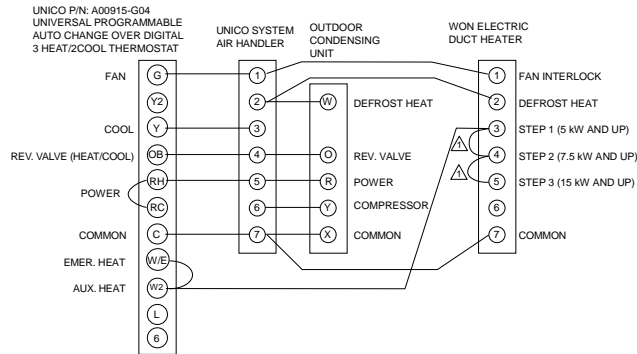


△ TO REDUCE HEATING CAPACITY AND PREVENT SHORT CYCLING IN MILD WEATHER, INSTALL AN OUTDOOR THERMOSTAT IN CIRCUIT.

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Figure 11. Control Wiring Diagram for Heating-Only or Cooling/Heating Applications

CONTROL WIRING DIAGRAM FOR UNICO HEAT PUMP WITH WON ELECTRIC DUCT HEATER



△ TO REDUCE HEATING CAPACITY AND PREVENT SHORT CYCLING IN MILD WEATHER, INSTALL AN OUTDOOR THERMOSTAT IN CIRCUIT.

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Figure 12. Control Wiring Diagram for Heat Pump Applications

All furnaces below 20 kW are internally wired to provide 5 kW of defrost heat. The 20 kW furnace provides 10 kW of defrost heat. If 10 kW of heating during defrost is desired for the smaller kW furnaces, contact the Unico Engineering Office for instructions.

It is important to use a thermostat designed for use with electric heat because a normal HEAT-COOL thermostat will not energize the fan. Thermostats designed for heat pump systems will also work.

Match thermostat anticipator settings for combined amperage load of all components, including electric furnace contactors, to prevent damage to thermostat. The internal wiring diagrams are shown in Figures 14 through 19.

The 15 and 20 kW single phase furnaces contain two supply circuits. Supply wires can be run separately for each circuit, which is the default configuration. Using two supply circuits allows the use of smaller gauge wires. In some cases, it is necessary to use smaller gauge wire to comply with building codes that limit the maximum wire size that can be used for a single circuit. The two circuits can also be joined together with a jumper bar shown in Figure 13. This is included with all dual circuit furnaces. The jumper bar allows the use of

one pair of larger gauge wire, as opposed to two pairs of smaller gauge wire.

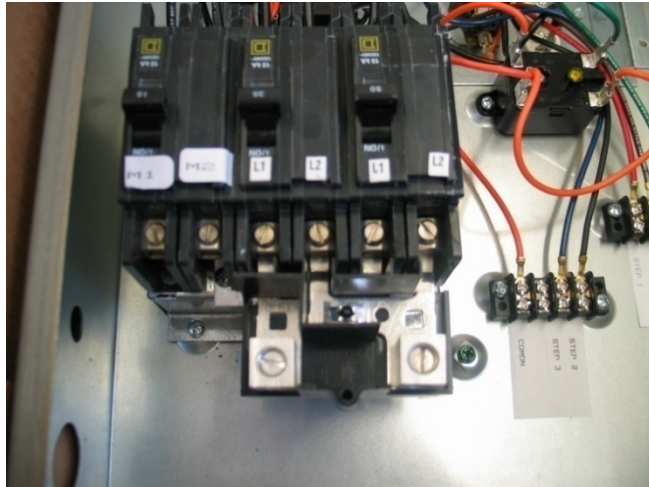


Figure 13. Jumper bar shown installed on circuit breakers. Jumper bar is shipped loose with all 15kW and 20kW, Single phase heaters.

Note: Circuit breakers installed in this device are the short-circuit protection of internal wiring and to serve as a service disconnect. Circuit breakers installed within this device DO NOT provide over current protection of the supply wiring.

Special Wiring for Heat Pumps

If used with a heat pump, it may be necessary to install an outdoor thermostat. Refer to Table 2 to determine if your system requires an outdoor thermostat. The outdoor thermostat will shut down the last step to prevent the furnaces from cycling on high limit. It is recommended to set the thermostat at 30°F (-1°C).

As an option to enhance energy savings for the 15 and 20 kW furnaces, a second outdoor thermostat, set around 40°F (4°C) may be installed to limit the use of the second step.

Table 2. When to use outdoor thermostat for last stage furnaces.

| Airflow CFM (m³/s) | kW Rating of Electric Furnaces | | | | |
|-----------------------|--------------------------------|-----|-----|-----|-----|
| | 5 | 7.5 | 10 | 15 | 20 |
| 400 (.19) | | | N/A | N/A | N/A |
| 500 (.24) | | | | N/A | N/A |
| 600 (.28) | | | | | N/A |
| 700 (.33) | | | | | N/A |
| 800 (.38) | | | | | |
| 900 (.42) | | | | | |
| 1000 (.47) | | | | | |
| 1250 (.59) | | | | | |

Outdoor thermostat not required
 Use outdoor thermostat to limit last stage element

For units using the *Unico* Advanced Control Board, no outdoor thermostats are required. The *Unico* Advanced Control Board will lock out the third stage of the electric furnace when the heat pump is on.

Sequence of Operation

All furnaces have a built-in delay feature to delay the furnace from coming on before the air handler is operating. There is no delay-off feature. As soon as the thermostat is satisfied, the furnace de-energizes and the air handler will continue running for approximately 1 minute. An air pressure switch is in series with the fan interlock relay for added protection and safety. The furnace is designed for a softer start so that there is a short time delay between stages.

Capacity at Lower Voltages

The elements are rated at 240 Volts and should not be used at higher voltages. Lower voltages are acceptable. However, furnaces are resistive loads so capacity is reduced by the square of the voltage ratio.

$$kW \text{ (output)} = kW \text{ (rated)} \times (V/240)^2$$

Therefore, multiply the rated capacity by the factor shown in Table 3 to determine the actual output of the furnace at other voltages.

Table 3. Furnace Capacity Factor at other voltages.

| Voltage | Factor |
|---------|--------|
| 240 | 1.00 |
| 230 | 0.92 |
| 220 | 0.84 |
| 208 | 0.75 |
| 200 | 0.69 |

Duct Design

The design of the duct system must account for the added restriction of the furnace. Table 4 lists the static pressure drop of the furnaces. Usually it will be necessary to add additional outlets to account for the added restriction, particularly for the systems requiring more than 800 CFM (378 L/s). For these systems it is not unusual to have 7 outlets per ton.

Table 4. Pressure drop, inches of water (Pa)

| | | Electric Duct Heater Models | | | | | | |
|--------|------------|-----------------------------|-------------|-------------|--------------|--------------|--------------|--------------|
| | CFM (L/s) | 2kW | 5kW | 7.5kW | 10kW | 15kW | 20kW | |
| M1218 | 150 (71) | 0.04 (10.0) | 0.06 (14.9) | 0.04 (10.0) | | | | |
| | 200 (94) | 0.07 (17.4) | 0.11 (27.4) | 0.08 (19.9) | | | | |
| | 250 (118) | 0.11 (27.4) | 0.17 (42.3) | 0.12 (29.9) | | | | |
| | 300 (142) | 0.16 (39.8) | 0.24 (59.8) | 0.18 (44.8) | | | | |
| | 350 (165) | 0.21 (52.3) | 0.32 (79.7) | 0.24 (59.8) | | | | |
| MB2430 | 400 (189) | | 0.14 (34.9) | 0.18 (44.8) | 0.19 (47.3) | | | |
| | 450 (212) | | 0.17 (42.3) | 0.21 (52.3) | 0.23 (57.3) | | | |
| | 500 (236) | | 0.20 (49.8) | 0.25 (62.3) | 0.27 (67.2) | | | |
| | 550 (260) | | 0.23 (57.3) | 0.29 (72.2) | 0.31 (77.2) | | | |
| | 600 (283) | | 0.27 (67.2) | 0.33 (82.2) | 0.35 (87.2) | 0.47 (117.0) | | |
| MB4860 | MB3642 | 650 (307) | | 0.30 (74.7) | 0.37 (92.1) | 0.39 (97.1) | 0.53 (132.0) | |
| | | 700 (330) | | 0.33 (82.2) | 0.41 (102.1) | 0.44 (109.6) | 0.59 (146.9) | |
| | | 750 (354) | | 0.15 (37.4) | - | 0.26 (64.7) | 0.35 (87.2) | |
| | | 800 (378) | | 0.16 (39.8) | - | 0.28 (69.7) | 0.38 (94.6) | 0.48 (119.5) |
| | | 850 (401) | | 0.17 (42.3) | - | 0.30 (74.7) | 0.41 (102.1) | 0.51 (127.0) |
| | | 900 (423) | | 0.19 (47.3) | - | 0.32 (79.7) | 0.44 (109.6) | 0.55 (137.0) |
| | | 950 (448) | | 0.20 (49.8) | - | 0.35 (87.2) | 0.47 (117.0) | 0.59 (146.9) |
| | | 1000 (472) | | 0.21 (52.3) | - | 0.37 (92.1) | 0.5 (124.5) | 0.63 (156.9) |
| | | 1050 (496) | | 0.23 (57.3) | - | 0.39 (97.1) | 0.53 (132.0) | 0.68 (169.3) |
| | | 1100 (519) | | 0.24 (59.8) | - | 0.42 (104.6) | 0.57 (141.9) | 0.71 (176.8) |
| | 1150 (543) | | 0.26 (64.7) | - | 0.44 (109.6) | 0.60 (149.4) | 0.75 (186.8) | |
| | 1200 (566) | | 0.27 (67.2) | - | 0.47 (117.0) | 0.63 (156.9) | 0.80 (199.2) | |
| | 1250 (590) | | 0.28 (69.7) | - | 0.49 (122.0) | 0.67 (166.8) | 0.84 (209.2) | |

Optional Adapters and Spare Parts

Table 5 shows the cross reference for the previous part numbers to the circuit breakers. Table 6 and 7 provides a list of optional plenum adapters available for the electric furnace. Spare parts are also listed in Table 8 and can be ordered using the part numbers shown.

Table 5. Circuit breaker where used chart.

| Electric furnace model number | New circuit breaker part numbers used | Previous circuit breaker part numbers used |
|-------------------------------|--|--|
| WON0202-B | A01051-215 A01051-220 | A01051-001 - |
| WON0502-B | A01051-215 A01051-235 | A01051-001 A01051-002 |
| WON0752-B | A01051-215 A01051-250 | A01051-001 A01051-003 |
| WON1002-B | A01051-215 A01051-260 | A01051-001 A01051-004 |
| WON1502-B | A01051-215 A01051-235 A01051-250 | A01051-001 A01051-002 A01051-004 |
| WON2002-B | A01051-215 A01051-250 A01051-260 | A01051-001 A01051-004 A01051-004 |
| WON0504-B | A01051-215 A01051-325 | A01051-001 A01051-005 |
| WON0754-B | A01051-215 A01051-335 | A01051-001 A01051-006 |
| WON1004-B | A01051-215 A01051-340 | A01051-001 A01051-007 |
| WON1504-B | A01051-215. A01051-360 | A01051-001 A01051-008 |

Table 6. (Optional) Plenum Adapters

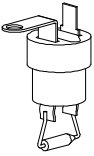
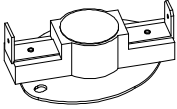
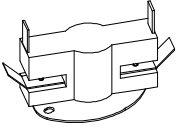
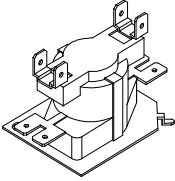
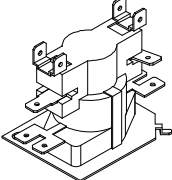
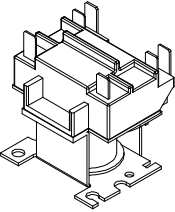
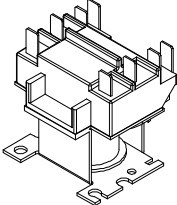
| A Size | Part Number |
|---------------------------|-------------|
| 7-inch [178 mm] Round | A01007-001 |
| 9-inch [228 mm] Round | A01007-002 |
| 10-inch [254 mm] Round* | A01007-003 |
| 6.5-inch [165 mm] Square | A01008-001 |
| 8.5-inch [216 mm] Square | A01008-002 |
| 9.5-inch [241 mm] Square* | A01008-003 |

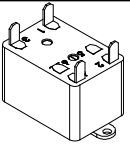
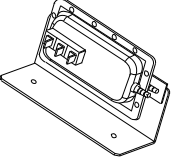
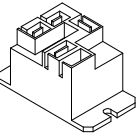
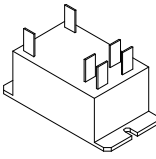
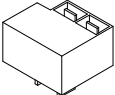
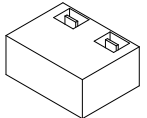
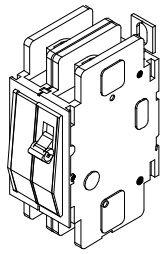
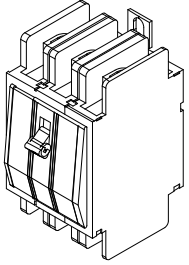
*Included with unit

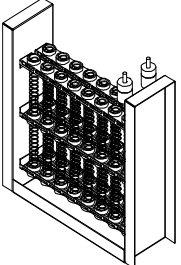
Table 7. (Optional) 1 inch (25 mm) Fiberglass Square Reducers

| Part No. | Square Size |
|--------------|------------------------------------|
| UPC-29-9585S | 9.5 to 8.5 inch [241 to 216 mm] |
| UPC-29-9565S | 9.5 to 6.5 inch [241 to 165 mm] |
| UPC-29-8565S | 8.5 to 6.5 inch [241 to 216 mm] |

Table 8. Spare parts list

| Drawing | Part Number | Description | Where used |
|---|-------------|------------------------------|--|
|  | A00257-001 | Fuse link, Temp limit: 152°C | All WUN models |
| | A00257-002 | Fuse link, Temp limit: 121°C | All WON models (All revisions) |
|  | A01011-001 | Auto Limit, L145 | All WUN models |
| | A01011-004 | Auto Limit, L165 | WON models:(All revisions) Single Phase: 2kW, 5kW, 15kW 3-Phase: 5kW, 7.5kW, 10kW, and 15kW. |
|  | A01011-002 | Auto Limit, 2PL165 | WON models: (All revisions) Single Phase: 7.5kW, 10kW, 15kW, and 20kW 3-Phase: 5kW, 7.5kW, 10kW, and 15kW. |
|  | A01012-001 | Sequencer, 1 pole | WON models:(No revision models) Single Phase: 5kW, and 15kW 3-Phase: 5kW, 7.5kW, and 10kW |
|  | A01012-002 | Sequencer, 2 pole | WON models:(No revision models) Single Phase: 7.5kW, 10kW, 15kW, and 20kW 3-Phase: 15kW |
|  | A01013-001 | Contactor, 1 Pole | WON models:(All revisions) Single Phase: 2kW, 5kW, 7.5kW, 10kW, 15kW, and 20kW 3-Phase: 15kW. |
|  | A01013-002 | Contactor, 2 Pole | WON models:(All revisions) Single Phase: 20kW 3-Phase: 5kW, 7.5kW, 10kW, and 15kW. |

| Drawing | Part Number | Description | Where used |
|---|-------------|---|---|
|  | A00802-003 | Fan Interlock Relay | All WON models (All revisions) |
|  | A01673-001 | Air Pressure Switch | All WON models (revision B only) |
|  | A01484-001 | Sequencer, 1 pole (Must attach A01485-001 or A01485-003 rectifier for sequencer to function) | WON models: (Rev. A & B) Single Phase: 2kW, 5kW, 15kW and 20kW 3-Phase: 5kW, 7.5kW, and 10kW |
|  | A01484-002 | Sequencer, 2 pole (Must attach A01485-002 rectifier for sequencer to function) | WON models: (Rev. A & B) Single Phase: 7.5kW, 10kW, 15kW and 20kW 3-Phase: 15kW |
|  | A01485-001 | Rectifier, 5 second delay (CRR9-5) | WON models: (Rev. A & B) Single Phase: 2kW, 5kW, 3-Phase: 5kW, 7.5kW, and 10kW |
| | A01485-003 | Rectifier, 9 second delay (CRR9-9) | WON models: (Rev. A & B) Single Phase: 15kW, and 20kW, |
|  | A01485-002 | Rectifier, 5 second delay (CRR8-5) | WON models: (Rev. A & B) Single Phase: 7.5kW, 10kW, 15kW and 20kW 3-Phase: 15kW |
|  | A01051-215 | Circuit breaker, 2 pole, 15 A | All WON models (All revisions) |
| | A01051-220 | Circuit breaker, 2 pole, 20 A | WON models:(All revisions) Single Phase: 2kW |
| | A01051-235 | Circuit breaker, 2 pole, 35 A | WON models:(All revisions) Single Phase: 5kW, 15kW |
| | A01051-250 | Circuit breaker, 2 pole, 50 A | WON models:(All revisions) Single Phase: 7.5kW, 15kW, 20kW |
| | A01051-260 | Circuit breaker, 2 pole, 60 A | WON models:(All revisions) Single Phase: 10kW, 20kW |
|  | A01051-325 | Circuit breaker, 3 pole, 25 A | WON models:(All revisions) 3-Phase: 5kW |
| | A01051-335 | Circuit breaker, 3 pole, 35 A | WON models:(All revisions) 3-Phase: 7.5kW |
| | A01051-340 | Circuit breaker, 3 pole, 40 A | WON models:(All revisions) 3-Phase: 10kW |
| | A01051-360 | Circuit breaker, 3 pole, 60 A | WON models:(All revisions) 3-Phase: 15kW |

| Drawing | Part Number | Description | Where used |
|---|-------------|--------------------------------------|--|
|  | A01486-G01 | Element, Electric furnace, 2.0kW | WON models:(Rev. A & B only) Single Phase: 2kW |
| | A01486-G02 | Element, Electric furnace, 3.75kW | WON models:(Rev. A & B only) Single Phase: 7.5kW |
| | A01486-G03 | Element, Electric furnace, 4.8kW | WON models:(Rev. A & B only) Single Phase: 5kW, 10kW, 15kW, and 20kW |
| | A01486-G04 | Element, Electric furnace, 1.6kW | WON models:(Rev. A & B only) 3-Phase: 5kW |
| | A01486-G05 | Element, Electric furnace, 2.5kW | WON models:(Rev. A & B only) 3-Phase: 7.5kW |
| | A01486-G06 | Element, Electric furnace, 3.2kW | WON models:(Rev. A & B only) 3-Phase: 10kW |
| | A01486-G07 | Element, Electric furnace, 4.8kW | WON models:(Rev. A & B only) 3-Phase: 15kW |
| | A01486-G12 | Element, Electric furnace, 3.75kW | WON models:(No revision models) Single Phase: 7.5kW |
| | A01486-G13 | Element, Electric furnace, 4.8kW | WON models:(No revision models) Single Phase: 5kW, 10kW, 15kW, and 20kW |
| | A01486-G14 | Element, Electric furnace, 1.6kW | WON models:(No revision models) 3-Phase: 5kW |
| | A01486-G15 | Element, Electric furnace, 2.5kW | WON models:(No revision models) 3-Phase: 7.5kW |
| | A01486-G16 | Element, Electric furnace, 3.2kW | WON models:(No revision models) 3-Phase: 10kW |
| | A01486-G17 | Element, Electric furnace, 4.8kW | WON models:(No revision models) 3-Phase: 15kW |

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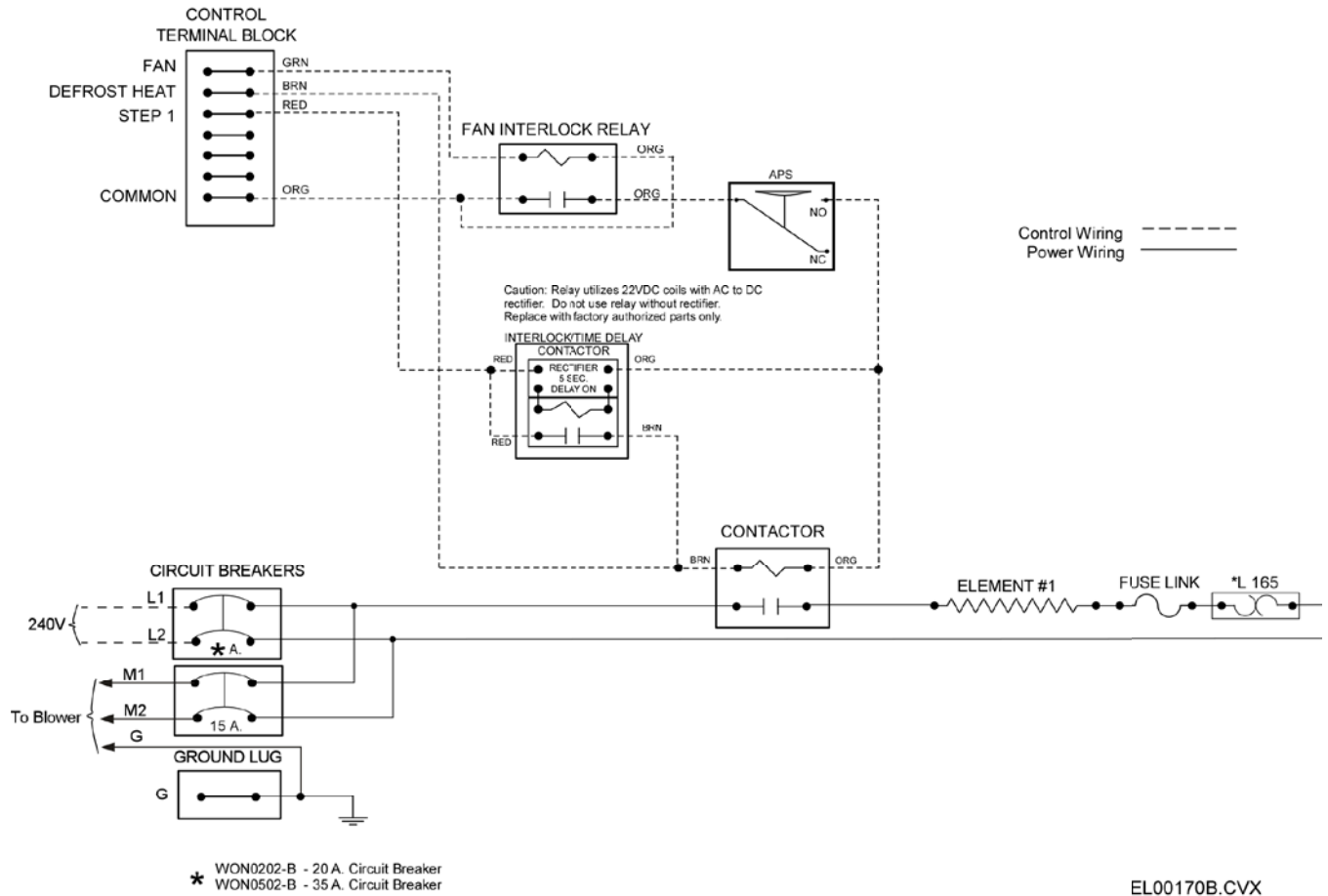


Figure 14. Internal Wiring Diagram for WON0202-B, and WON0502-B. (Single phase)

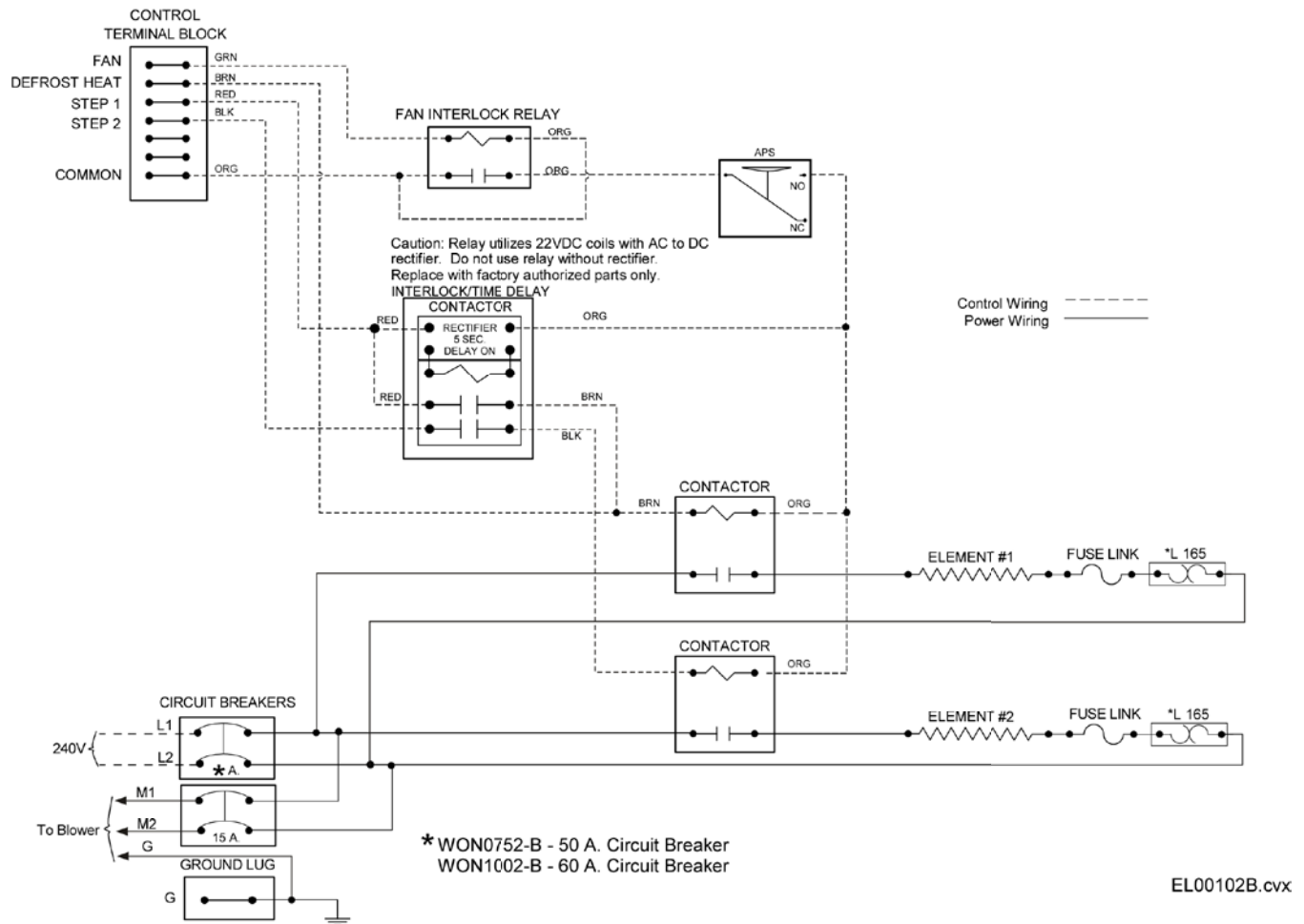


Figure 15. Internal Wiring Diagram for WON0752-B and WON1002-B. (Single phase)

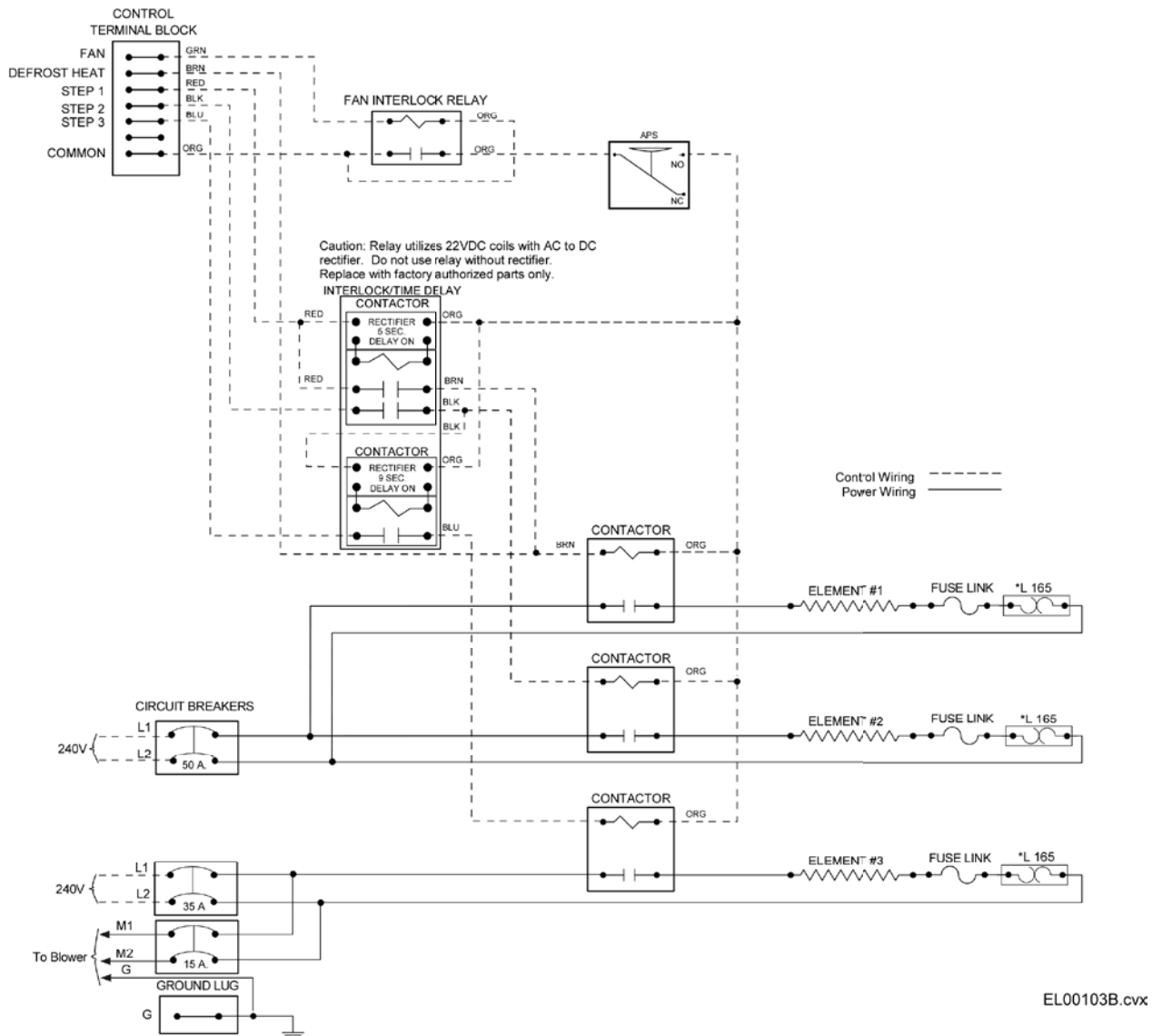


Figure 16. Internal Wiring Diagram for WON1502-B. (Single phase)

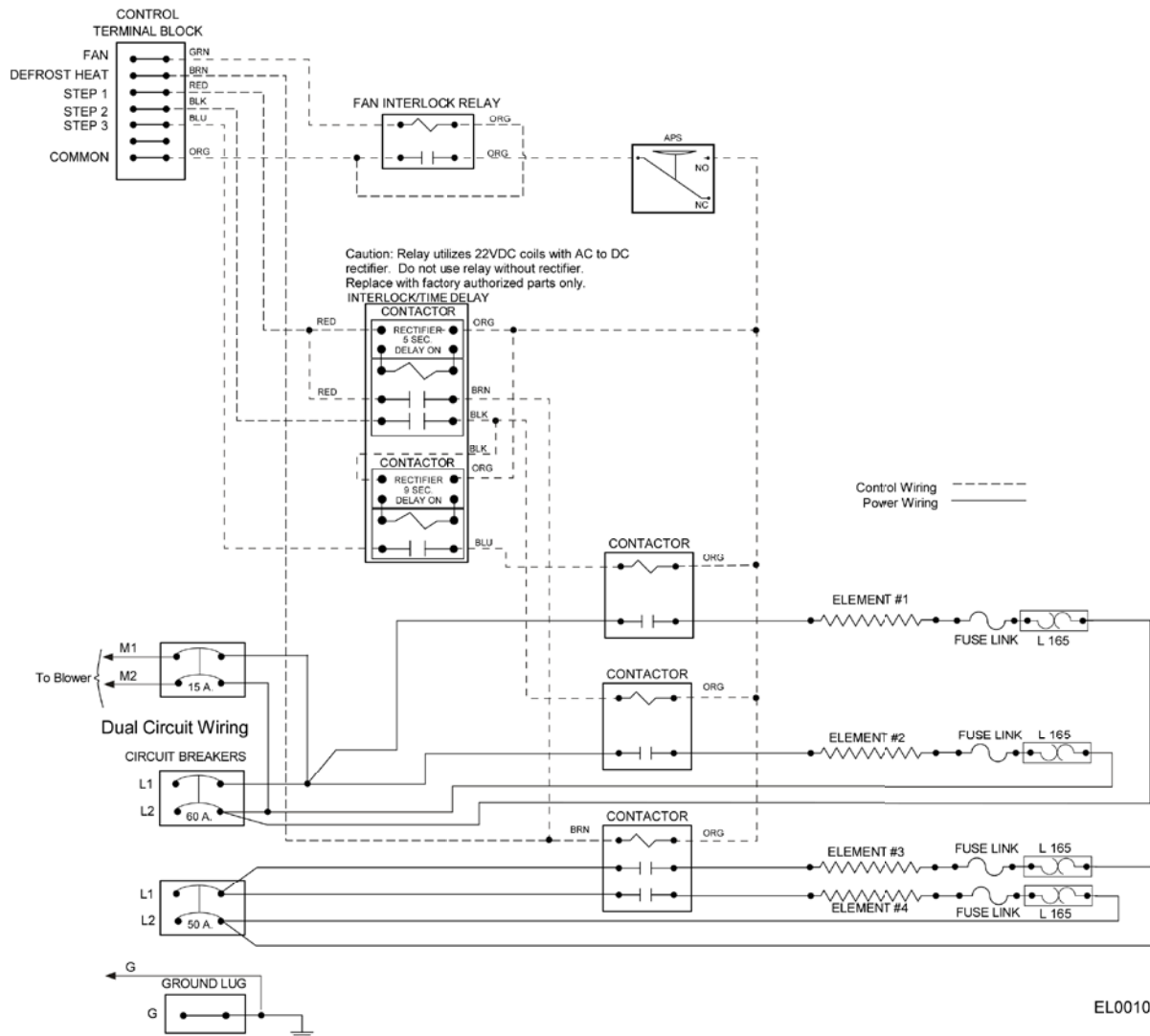


Figure 17. Internal Wiring Diagram for WON2002-B. (Single phase)

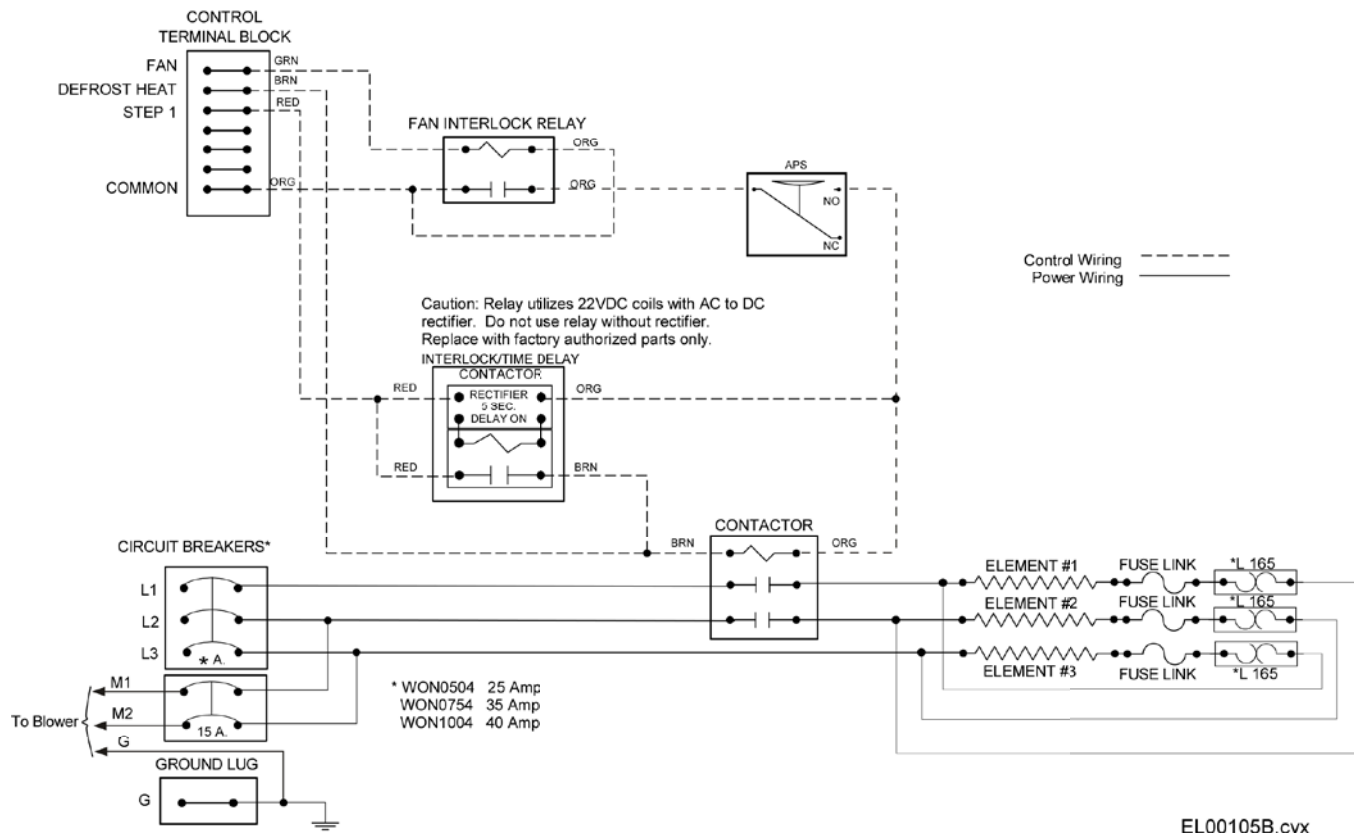


Figure 18. Internal Wiring Diagram for WON0504-B, WON0754-B, and WON1004-B. (3 Phase)

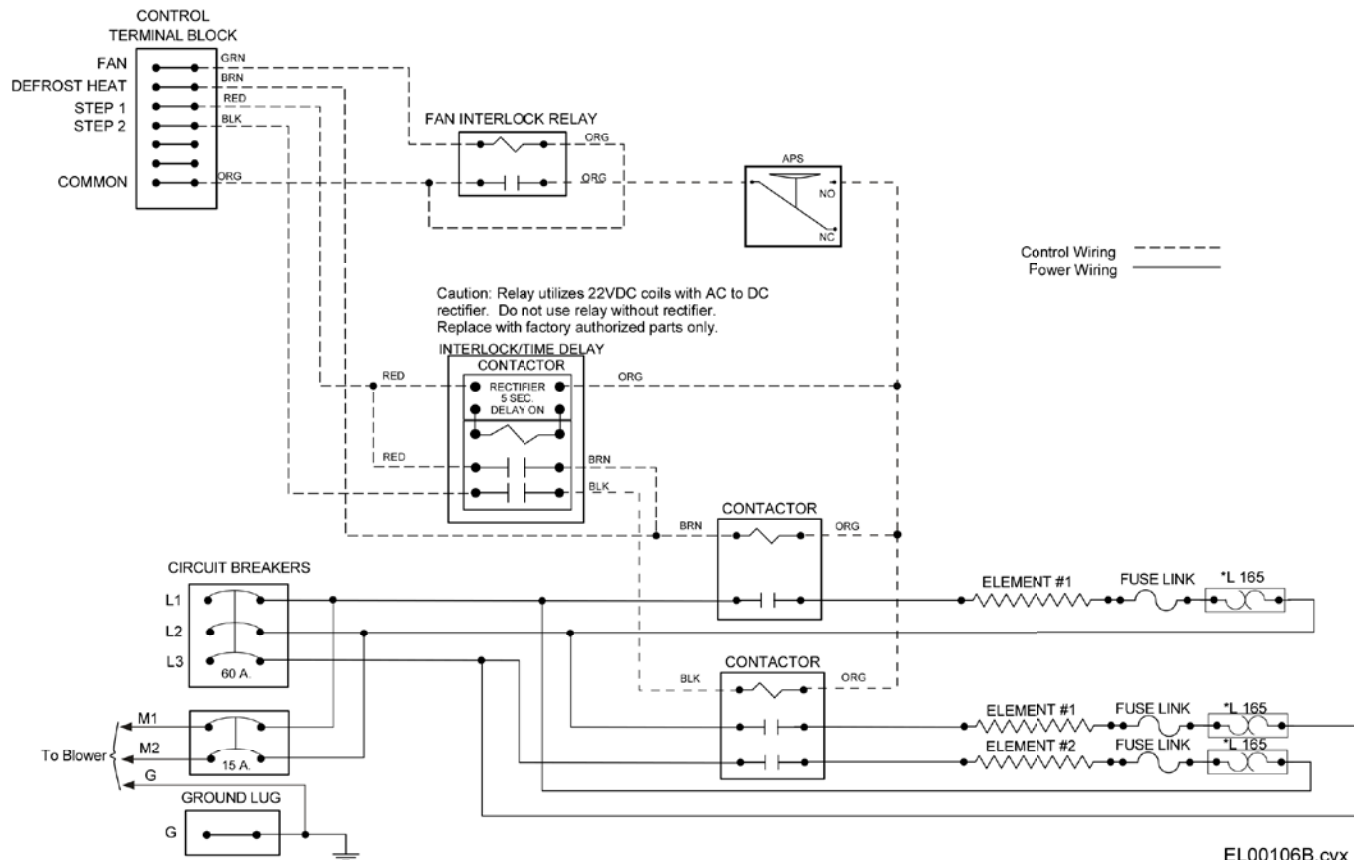


Figure 19. Internal Wiring Diagram for WON1504-B. (3 phase)