

**STAGE-UP TIMER FOR  
THIRD COOLING STAGE****INSTALLATION INSTRUCTIONS FOR THREE-STAGE COOLING (24G40; 603364-39)  
ON KGC/KCC/KHC/ZG/ZC/ZH092-150 AND ELXA/ELXC/EL\_KA/ELKC UNITS****Shipping and Packing List****Package 1 of 1 contains:**

- 1- Adjustable time delay relay (DL58)
- 2- Screws
- 2- Wires (one blue, one yellow)
- 1- Manufacturer's relay/timer instruction manual

Check packaging for shipping damage. Contact the last carrier immediately if any shipping damage is found.

**⚠ WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

**⚠ WARNING**

To prevent serious injury or death:

1. Lock-out/tag-out before performing maintenance.
2. If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
3. Always keep hands, hair, clothing, jewelry, tools, etc. away from moving parts.

**⚠ CAUTION**

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

**Application**

This kit is designed for retrofit applications where a three-stage cooling unit is replacing a two-stage cooling unit and building thermostat wiring does not have additional wire for the 3rd cooling stage. This kit allows the unit to run in the rated 3 cooling stages.

The kit uses a timer delay relay activated from the 2nd stage cooling demand (Y2) to initiate a 3rd cooling stage demand (Y3) after a user selectable time delay. Adjust the stage-up time from 10-10,230 seconds by moving the DIP switches to "ON".

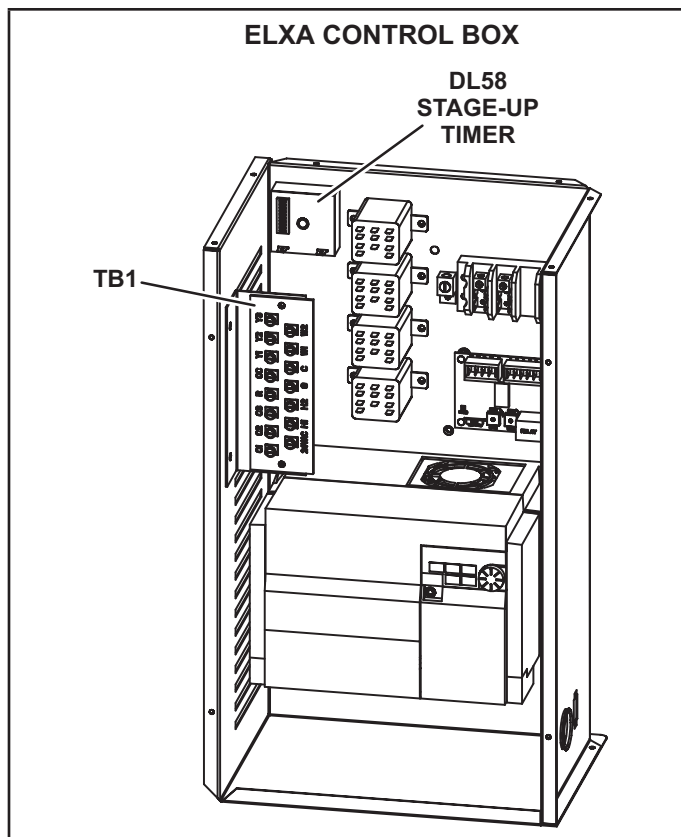
DIP switches are labeled with a value (time, in seconds). Add the value of each switch in the "ON" position to reach the desired stage-up length of time. See the manufacturer's instructions for further details. An activation time between 7-12 minutes is recommended (420-720 seconds).

**Split System Air Handlers - ELXA120-240****OPERATION:**

The time delay relay (DL58) should be installed between TB1-C2 and TB1-C3 terminal strip connections per unit wiring diagram. The delay timing sequence is initiated when 24V is applied to the TB1-C2 connection. Upon expiration of the preset time, 24V is passed through DL58 to TB1-C3. Refer to ELXA installation instruction System Operation section for further details.

**INSTALLATION:**

- 1- Disconnect all power to unit.
- 2- Remove the access panel and set aside.
- 3- Remove the control box cover and set aside.
- 4- Use the #8 screws, provided in the kit, to install the DL58 timer as shown in figure 1.
- 5- Connect the blue wire labeled DL-INPUT to DL58 input connection (terminal 1). Strip the other end of the blue wire labeled Y2-C2 and secure under the TB1 screw terminal C2.
- 6- Connect the yellow wire labeled DL-LOAD to DL58 input connection (terminal 3); strip the other end of the yellow wire labeled Y3-C3 and secure under the TB1 screw terminal C3.
- 7- Set the timer by following the instructions included in the delay timer packaging.
- 8- Reinstall the control box cover and access panel.
- 9- Turn on power to unit.



**FIGURE 1**

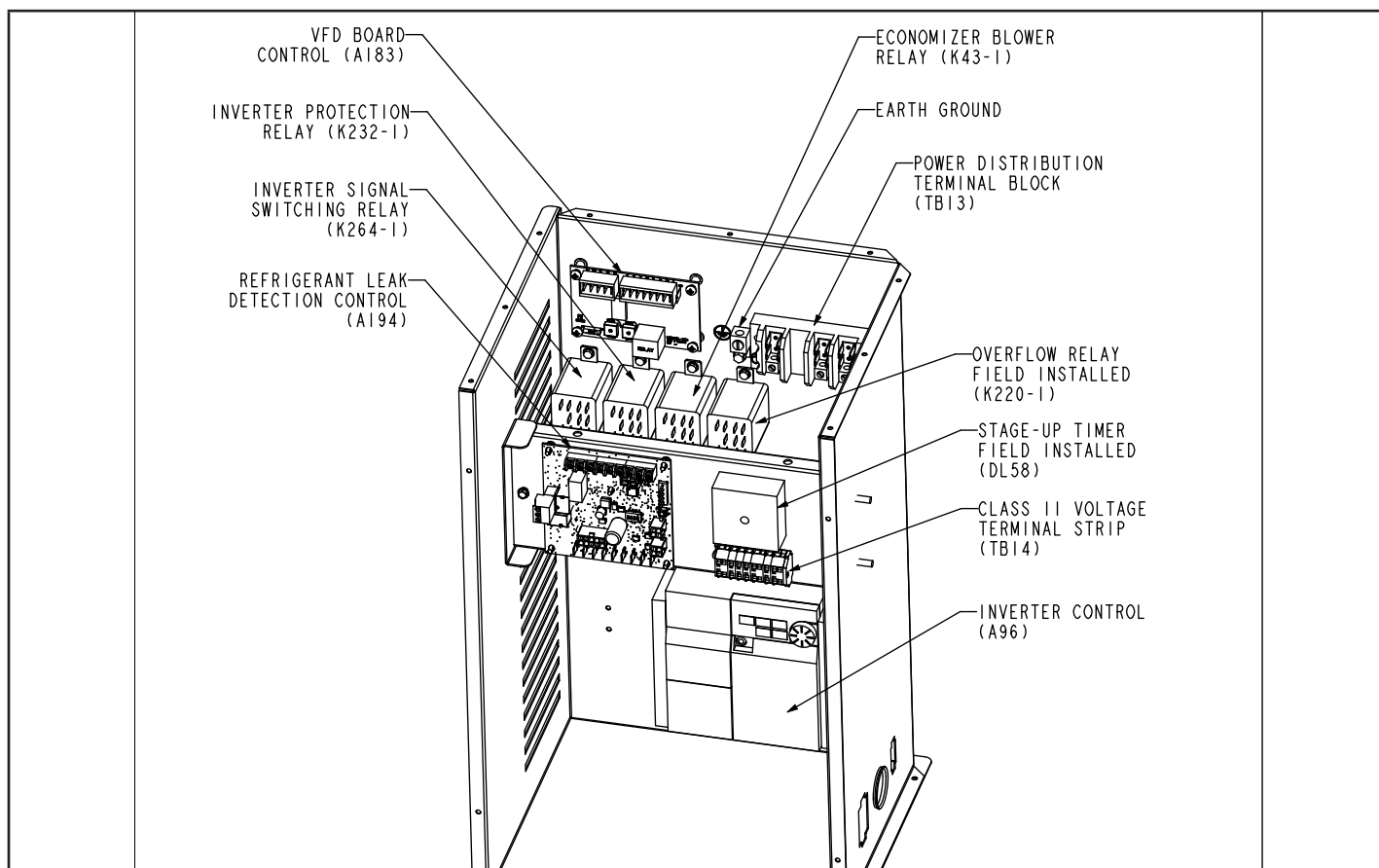
## Split System Air Handlers – ELKA120-240

### OPERATION:

The time delay relay (DL58) should be installed between TB14-C2 and TB14-C3 terminal strip connections per unit wiring diagram. The delay timing sequence is initiated when 24V is applied to the TB14-C2 connection. Upon expiration of the preset time, 24V is passed through DL58 to TB14-C3. Refer to ELKA installation instruction System Operation section for further details.

### INSTALLATION:

- 1- Disconnect all power to unit.
- 2- Remove the access panel and set aside.
- 3- Remove the control box cover and set aside.
- 4- Use the #8 screws, provided in the kit, to install the DL58 timer as shown in figure 2.
- 5- Connect the blue wire labeled DL-INPUT to DL58 input connection (terminal 1). Strip the other end of the blue wire labeled Y2-C2 and secure under the TB14 terminal C2.
- 6- Connect the yellow wire labeled DL-LOAD to DL58 input connection (terminal 3); strip the other end of the yellow wire labeled Y3-C3 and secure under the TB14 terminal C3.
- 7- Set the timer by following the instructions included in the delay timer packaging.
- 8- Reinstall the control box cover and access panel.
- 9- Turn on power to unit.



**FIGURE 2**

## Air Conditioners - ELXC/ELKC120-240

### OPERATION:

The time delay relay (DL58) should be installed between TB14-C2 and TB14-C3 terminal strip connections per unit wiring diagram. The delay timing sequence is initiated when 24V is applied to the TB14-C2 connection. Upon expiration of the preset time, 24V is passed through DL58 to TB14-C3. Refer to ELXC installation instruction System Operation section for further details.

### INSTALLATION:

- 1- Disconnect all power to unit.
- 2- Remove the control box cover and set aside.
- 3- Use the #8 screws, provided in the kit, to install the DL58 timer as shown in figure 3.
- 4- Connect the blue wire labeled DL-INPUT to DL58 input connection (terminal 1). Strip the other end of the blue wire labeled Y2-C2 and secure in TB14, position C2.
- 5- Connect the yellow wire labeled DL-LOAD to DL58 input connection (terminal 3); strip the other end of the yellow wire labeled Y3-C3 and secure in TB14, position C3.
- 6- Set the timer by following the instructions included in the delay timer packaging.
- 7- Reinstall the control box cover.
- 8- Turn on power to unit.

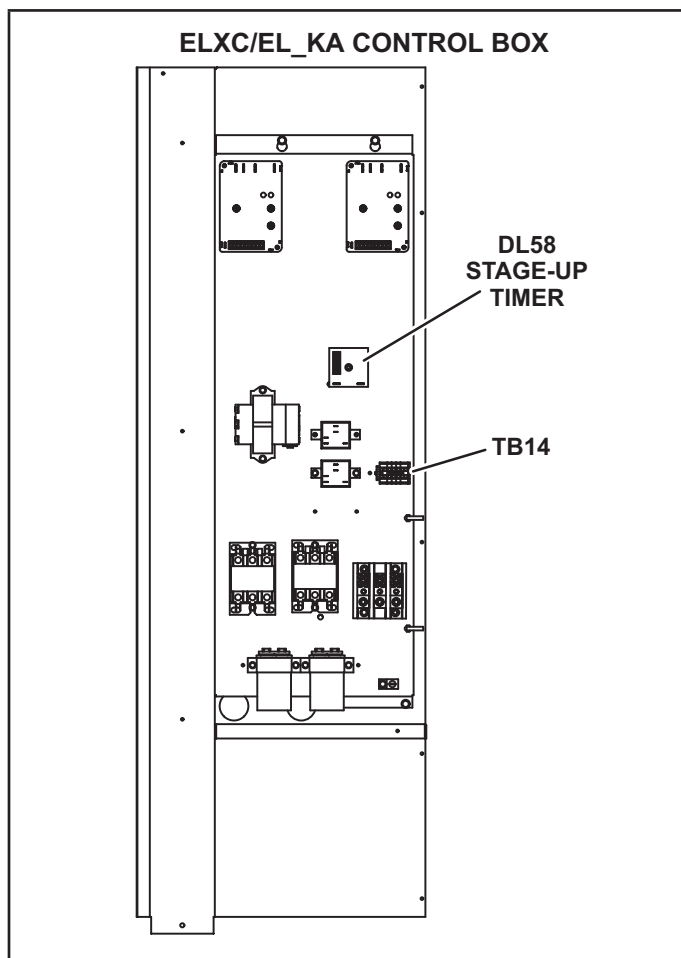


FIGURE 3

## KGC/KCC/KHC092-150

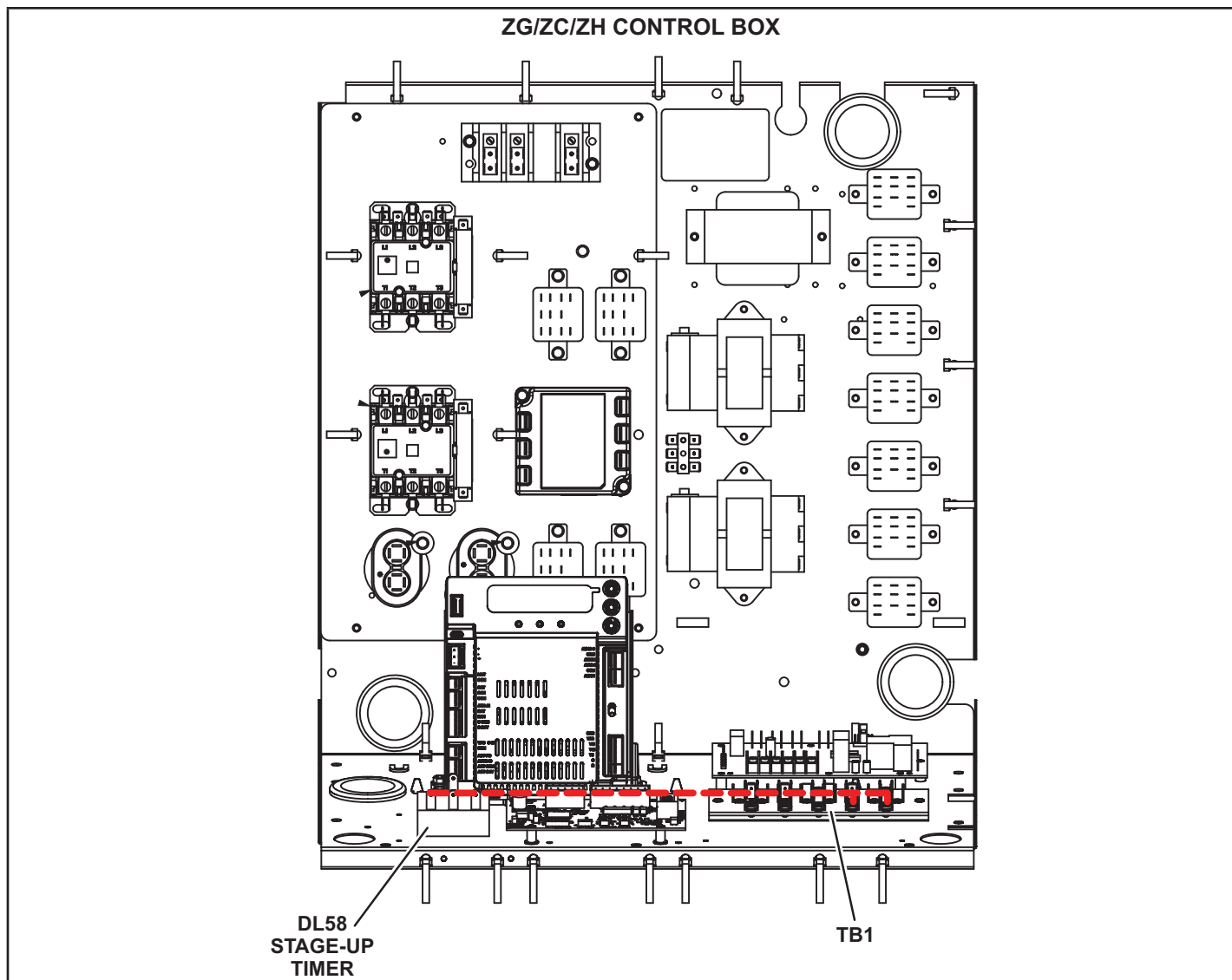
### OPERATION:

The delay-on stage-up timer (DL58) should be installed between TB1-Y2 and TB1-Y3 terminal strip connections per unit wiring diagram. The delay timing sequence is initiated when 24V is applied to the TB1-Y2 connection.

Upon expiration of the preset time, 24V is passed through DL58 to TB1-Y3. 24V on TB1-Y3 connection will change the blower speed from Medium to High and change stage 1 compressor speed from Low to High.

### INSTALLATION:

- 1- Disconnect all power to unit.
- 2- Remove the access panel and set aside.
- 3- Use the #8 screws, provided in the kit, to install the DL58 timer as shown in figure 4.
- 4- Connect the blue wire labeled DL-INPUT to DL58 input connection (terminal 1). Connect the other end of the blue wire labeled Y2-C2 to the Y2 terminal on TB1.
- 5- Connect the yellow wire labeled DL-LOAD to DL58 input connection (terminal 3); connect the other end of the yellow wire labeled Y3-C3 to the Y3 terminal on TB1.
- 6- Set the timer by following the instructions included in the delay timer packaging.
- 7- Reinstall the control box access panel.
- 8- Turn on unit power.



**FIGURE 4**

### **ZGC/ZCC/ZHC092-150**

#### **OPERATION:**

The delay on make timer (DL58) should be installed between TB1-Y2 and TB1-Y3 terminal strip connections per unit wiring diagram. The delay timing sequence is initiated when 24V is applied to TB1-Y2 connection.

Upon expiration of preset time, 24V is passed through DL58 to TB1-Y3. 24V on TB1-Y3 connection will change the blower speed from Medium to High and change stage 1 compressor speed from Low to High.

#### **INSTALLATION:**

- 1- Disconnect all power to unit.
- 2- Remove the access panel and set aside.

- 3- Using the #8 screw provided in the kit, install the DL58 timer as shown in figure 5.
- 4- Connect the blue wire labeled DL-INPUT to DL58 input connection (terminal 1); connect the end of the blue wire labeled Y2-C2 to the Y2 terminal on TB1.
- 5- Connect the yellow wire labeled DL-LOAD to DL58 input connection (terminal 3); connect the end of the blue wire labeled Y3-C3 to the Y3 terminal on TB1.
- 6- Set the timer by following the instructions included in the delay timer packaging.
- 7- Reinstall the access panel.
- 8- Turn on unit power.

# ZG/ZC/ZH CONTROL BOX

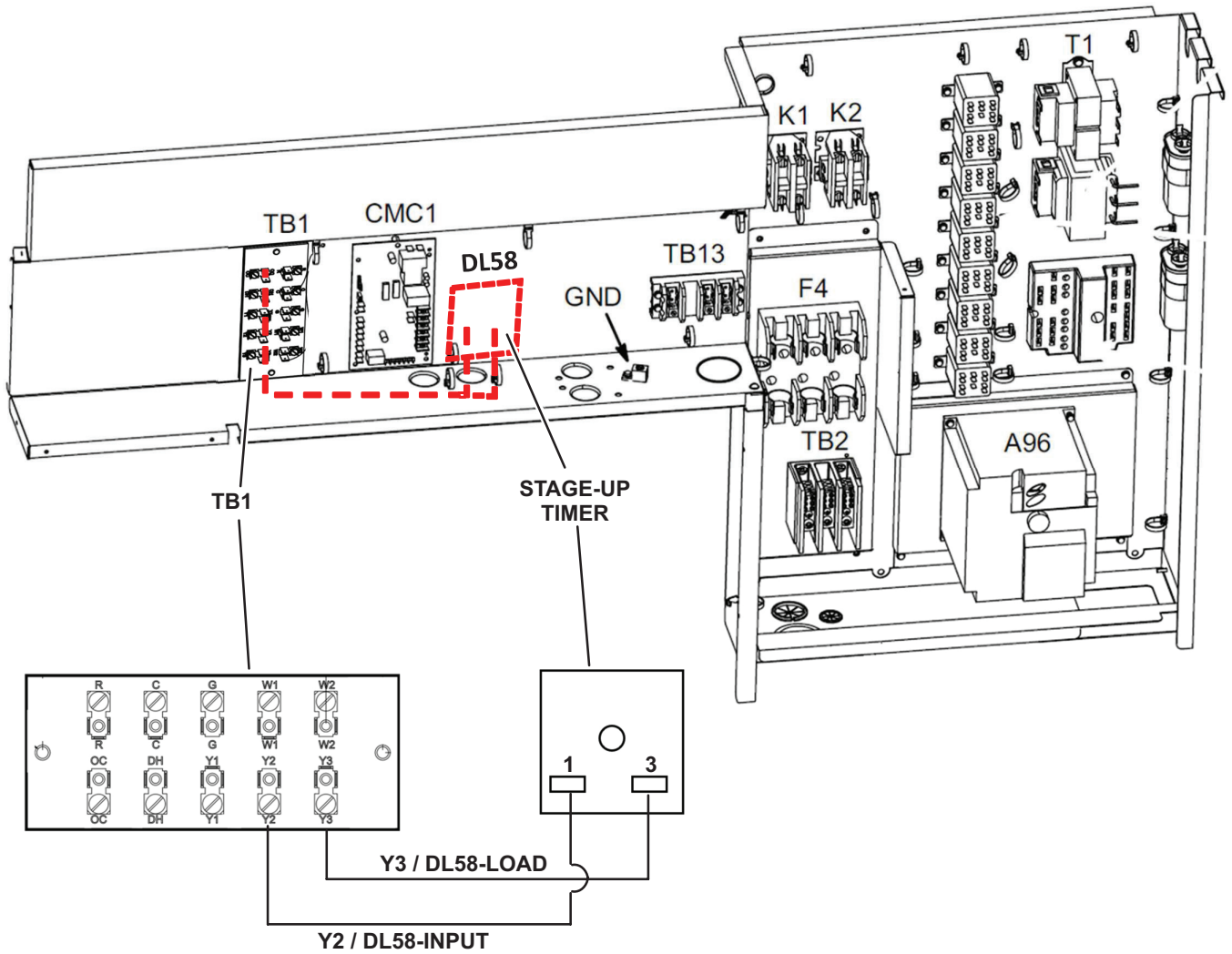


FIGURE 5