



# Options CL31 and CL32, Multiple Heater Control

INSTALLATION FORM RZ-NA I-OPT-MH  
Obsoletes Form RZ-NA 400-MH

APPLIES TO: Models UDAP, UDAS,  
F, FE, B, BE, TR, TR-H

## Description/ Application

These options are designed to permit the control of up to six heaters (one master and five slave units) with a single thermostat or a time clock and single/multiple thermostats. For maximum safety the multiple control is done in the low voltage circuit. (Interruption of the supply voltage is not recommended.) Wiring lengths may not exceed those shown in the table. **Do not use multiple heater control options with two-stage gas valves.**

Units equipped for 115 or 575 volt supply require Option CL31 for control of a “master” unit and one slave unit (total of two heaters). Option CL32 is required for each additional “slave” unit.

Units equipped for supply voltages of 208, 230 or 460, require one Option CL32 for the “master” and one Option CL32 for each “slave” heater.

## Components

### Kits for Heater Models UDAP and UDAS

Option CL31 for UDAP or UDAS – Package P/N 197155		
Qty	P/N	Description
1	194808	Transformer 40VA
2	197157	Relay Assemblies each consisting of one P/N 98118, RBM Relay (WR #134-20102-101), wired and mounted on a specially designed bracket.
2	195249	Self drilling screw for attaching relay bracket
2	16228	Cable Clamp 3/16"
1	197160	Wiring Harness Assembly (brown wires)
2	197164	Wiring Diagram Label
Option CL32 for UDAP or UDAS – Package P/N 197156		
Qty	P/N	Description
1	197157	Relay Assemblies each consisting of one P/N 98118, RBM Relay (WR #134-20102-101), wired and mounted on a specially designed bracket.
1	195249	Self drilling screw for attaching relay bracket
1	16228	Cable Clamp 3/16"
1	197164	Wiring Diagram Label

### Kits for Heater Models F, FE, B, BE, TR, TR-H

Option CL31 for F/FE/B/BE/TR – Package P/N 102248		
Qty	P/N	Description
1	102708	Transformer 35VA – Basler #BE141640-RAK
2	103152	Sheet Metal Screws, #6 x 1-1/2 “ lg. (for
2	111233	Tinnerman Clips, #C1110-62 (for transformer screws) Used on Models F/B/FE/BE only
2	102243	Relay Assemblies each consisting of one P/N 98118, RBM Relay (WR #134-20102-101), wired and mounted on a specially designed bracket.
2	16228	Cable Clamp 3/16"
2	131127	Wiring Diagram Label
4	98872	Spacers – Used on Models TR/TR-H
4	121033	Screws #8 x 1" lg – Used on Models TR/TR-H only
Option CL32 for F/FE/B/BE/TR – Package P/N 102249		
Qty	P/N	Description
1	102243	Relay Assembly consisting of one P/N 98118, RBM Relay (WR #134-20102-101), wired and mounted on a specially designed bracket.
1	16228	Cable Clamp 3/16"
1	131127	Wiring Diagram Label
2	98872	Spacers – Used on Models TR/TR-H only
2	121033	Screws #8 x 1" lg - Used on Models TR/TR-H only

**WARNING: Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.**

## Installation Instructions

These instructions are designed to assist a qualified electrician in installing this multiple heater control kit. All electrical wiring and connections, including electrical grounding, MUST be in accordance with the National Electric Code ANSI/NFPA No. 70 (latest edition) or, in Canada, with the Canadian Electrical Code, Part 1-C.S.A. Standard C22.1 In addition, the installation must comply with local ordinances and applicable gas company requirements.

# Installation Instructions (cont'd)

Follow the instructions for the option and for the model of heater being installed. These options apply to the gas-fired unit heater Models UDAP, UDAS, F, B, FE, or BE and to gas-fired tubular radiant Models TR and TR-H.

1. All Models – Turn off the gas and electric power.
2. Change the Transformer – Option CL31 only

**Models UDAP and UDAS** (Refer to FIGURE 1)

**Parts Required:** 40VA Transformer

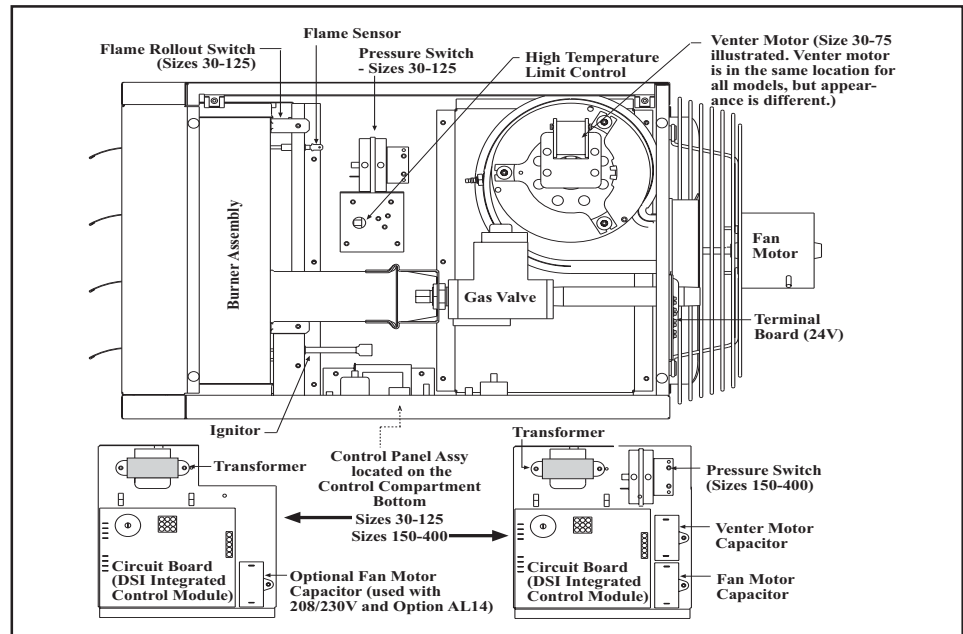
Select the “master” unit. Remove the access panel.

Locate the factory-installed transformer. Mark and disconnect the wires, and remove the transformer. Using the same screws, install the 40VA transformer from the kit. Connect the wires.

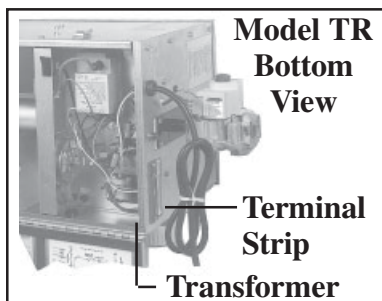
Close the outer side panel.

**FIGURE 1 - Transformer Location, Models UDAP and UDAS**

The transformer is mounted on the control board on the bottom of the control compartment.



**FIGURE 2 - Transformer Location, Model TR and TR-H**



**Models TR and TR-H** (Refer to FIGURE 2)

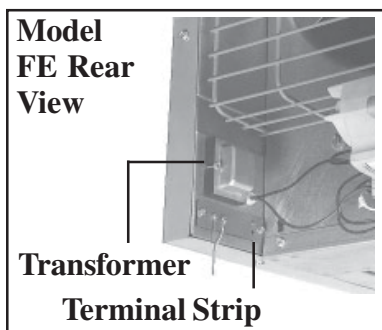
**Parts Required:** 35VA Transformer and 2 Screws (#6x1-1/2" lg)

Open the bottom access panel.

Locate the factory-installed transformer. Mark and disconnect the wires, and remove the transformer. Install the 35VA transformer from the kit and connect the wires.

Close the access panel

**FIGURE 3 - Transformer Location, Models F, FE, B, and BE**



**Models F, B, FE, and BE** (Refer to FIGURE 3)

**Parts Required:** 35VA Transformer, two Screws (#6 x 1-1/2" lg), and two Tinnerman Clips

Select the “master” unit. Remove the left outer side panel (left when facing the rear of the heater), exposing the inner side panel and the wiring.

Locate the factory-installed transformer. Mark and disconnect the wires, and remove the transformer. Through the “large” hole in the side panel (for mounting the transformer), slide the Tinnerman clips over the transformer in the mounting hole and fasten with the screws included in the kit. Connect the wires to the new transformer.

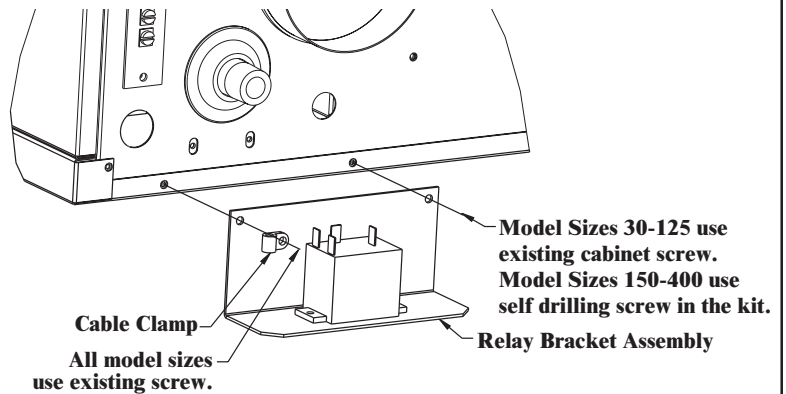
Replace the outer side panel.

### 3. Install a Relay Bracket Assembly on the “Master” Unit and all “Slave” Units – Option CL31 and Option CL32

**FIGURE 4 - Models UDAP and UDAS**

Sizes 30, 45, 60, 75, 100, 125 - Position the bracket as illustrated. Remove the screws from the edge of the cabinet bottom. Replace the screws attaching the relay bracket.

Sizes 150, 175, 200, 225, 250, 300, 350, 400 - Position the bracket as illustrated. Remove the screw on the left from the edge of the cabinet bottom. Replace the screw attaching the bracket. Secure the other side of the bracket with the self drilling screw in the kit.



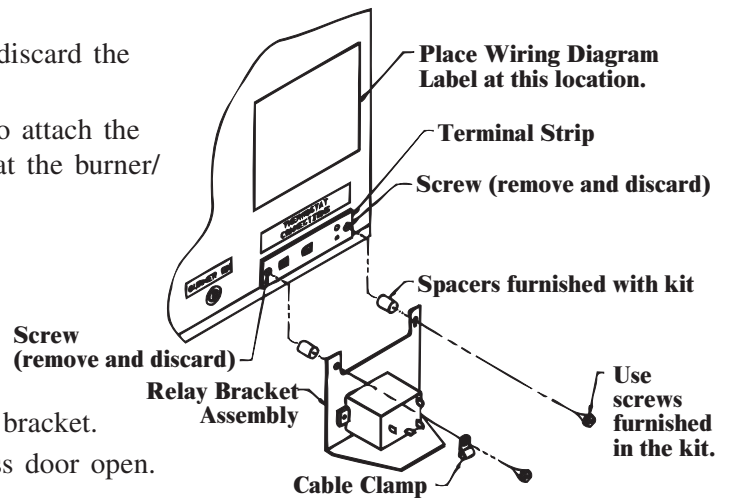
**FIGURE 5 - Models TR and TR-H**

On the end of the burner/control box, remove and discard the screws holding the thermostat terminal strip.

Use the screws and spacers in the option package to attach the relay bracket. Follow the sequence below, starting at the burner/control box

- first the terminal strip,
- second the spacers,
- third the relay bracket,
- and fourth (on the left side only) – put the blue and brown wires through the plastic cable clamp and position the cable clamp on top of the relay bracket.

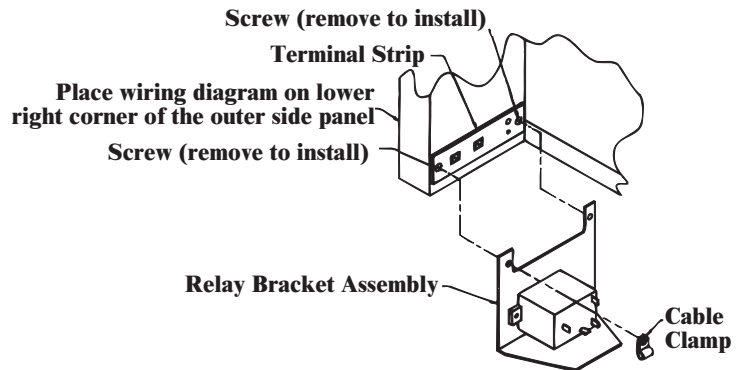
**NOTE:** The spacers are required to allow the access door open. The Tinnerman clips are not used.



**FIGURE 6 - Models F, B, FE, and BE**

Remove the screws that hold the thermostat terminal strip (See Figure 1). Slide the relay bracket underneath the terminal strip. Re-insert the screw on the right side. Put the blue and brown wires into the plastic cable clamp, and on the left end of the terminal strip, position the cable clamp on top. Fasten with the other screw.

**NOTE:** The 1" lg screws and the spacers in the option package will not be used.



See **FIGURES 7 and 8, page 4, for Option CL31 and CL32 wiring diagram.**

Depending on which heater (master or slave) the wiring diagram label is going on, check appropriate box.

**Master Heater**

**Slave Heater**

### 4. Wiring Diagram Label – All Heaters

Check the appropriate box on each diagram (One Master Heater and one to five Slave Heaters).

**Models UDAP and UDAS** – Position the label on the bottom rear corner of the access panel. Wipe the area with a clean, dry cloth. Remove the backing and adhere the wiring diagram.

**Models TR and TR-H** – Position the label on the rear of the burner box above the terminal strip. Wipe the area with a clean, dry cloth. Remove the backing and adhere the wiring diagram.

**Models F, FE, B, and BE** – Position the label in the lower right corner of the outer left side panel (left when facing the rear of the heater). Wipe the area with a clean, dry cloth. Remove the backing and adhere the wiring diagram.

# Installation Instructions (cont'd)

**CAUTION: Be careful not to short thermostat leads to a metal surface. Doing so will cause the transformer to fail, requiring it to be replaced.**

**FIGURE 7 - Multiple Heater Control Wiring Diagram for Models UDAP and UDAS, W. D. Label P/N 197164**

Depending on which heater (master or slave) it is going on, check appropriate box on actual wiring diagram label.

- Master Heater
- Slave Heater

## 5. Control Wiring

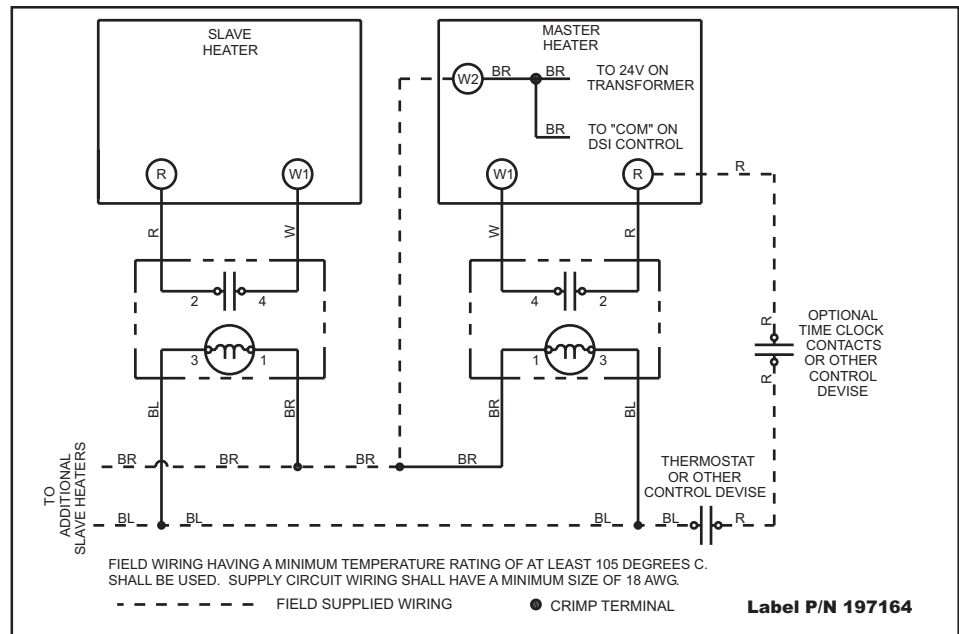
All Models – Follow the diagram label to wire the controls. Do not exceed the wire lengths shown in the table below.

### Field Control Wiring (Length and Gauge)

Wire Type	Wire Gauge	Maximum Wire Length*	Maximum Distance
TEW	18	500 ft.	250 ft.
TEW	14	1300 ft.	650 ft.
TEW	12	2100 ft.	1050 ft.

\* Wire length equals wire for circuit going plus wire for returning circuit.

Turn on the electric power and the gas. Follow the lighting instructions to operate the heater. Check the control system for proper and safe operation.



**FIGURE 8 - Multiple Heater Control Wiring Diagram for Models F, FE, B, BE, TR and TR-H, W. D. Label P/N 131127**

Depending on which heater (master or slave) it is going on, check appropriate box on actual wiring diagram label.

- Master Heater
- Slave Heater

