

RELAY KIT INSTALLATION FOR MULTIPLE HEATER CONTROL

OPTIONS CL31 AND CL32 FOR MODELS UBX, UBZ, UDX, UDZ, AND UEZ

⚠ CAUTION ⚠

- **DO NOT** use these multiple heater control options with a two-stage gas valve or a two-stage thermostat.
 - 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, CSA Standard C22.1. In addition, the installation must comply with local ordinances and applicable gas company requirements.
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- These relay kits are designed to permit the control of up to five heaters (one control unit and up to four additional non-control units) with one single-stage thermostat or with a time clock and single or multiple single-stage thermostats. For maximum safety, the multiple control is installed in the low voltage circuit. Interruption of the supply voltage is not recommended.
 - Refer to the installation manual provided with the heater for important safety information.
 - Pay attention to all dangers, warnings, cautions, and notes highlighted in this manual. Safety markings should not be ignored and are used frequently throughout to designate a degree or level of seriousness.
 - Model/option/voltage applicability is listed in [Table 1](#) and kit components are listed in [Table 2](#). Ensure that all components listed in [Table 2](#) are available before beginning installation.

Table 1. Model/Voltage/Option Applicability

Model	Voltage/Phase	Option for Control Unit	Option for Non-Control Unit(s)	No. of Non-Control Units Permitted
UBX, UBZ, UDX, UDZ	115/1, 208/1, 230/1, 208/3, 230/3, 460/3, 575/3	CL31	CL32	4
UEZ	115/1			

Table 2. Relay Kit Components

Item No.*	Component	Description	Model			
			UBX, UBZ		UDX, UDZ, UEZ	
			Option**			
			CL31	CL32	CL31	CL32
			Kit PN			
			1041281	1041287	1041288	1041287
			Component PN (Quantity)			
1	Relay assembly	Includes relay and specially-designed bracket	197157 (2)	197157 (1)	197157 (2)	197157 (1)
1A	Relay	Wired and mounted on bracket	18549 (2)	18549 (1)	18549 (2)	18549 (1)
2	Screw	Self-drilling, for securing relay bracket	195249 (2)	195249 (1)	195249 (2)	195249 (1)
3	Cable clamp	3/16	16228 (2)	16228 (1)	16228 (2)	16228 (1)
4	Label	Wiring diagram	197164 (2)	197164 (1)	197164 (2)	197164 (1)
5	Transformer	40VA	—		194808 (1)	—
6	Wiring harness assembly	Brown wires			197160 (1)	

*See [Figure 1](#) and [Figure 2](#).

**Option CL31 includes components for one control unit and one additional unit. Option CL32 includes components for each additional non-control unit.

INSTALLATION

Install the relay kit as follows. Item numbers in parentheses refer to [Table 2](#).

1. Turn OFF gas and electric power.
2. Replace transformer on control unit (models UDX, UDZ, and UEZ):
 - a. Remove or open panel(s) as necessary and locate existing transformer (see [Figure 1](#)) mounted at top of control compartment for unit size 055–110 UEZ models or on control board at bottom of control compartment for unit size 130–310 UEZ and all UDX and UDZ models.
 - b. Mark and disconnect transformer wires
 - c. Remove screws that secure existing transformer and remove transformer.
 - d. Install replacement transformer (5) and secure using existing screws.
 - e. Reconnect transformer wires.
 - f. Install or close panel(s) as necessary.

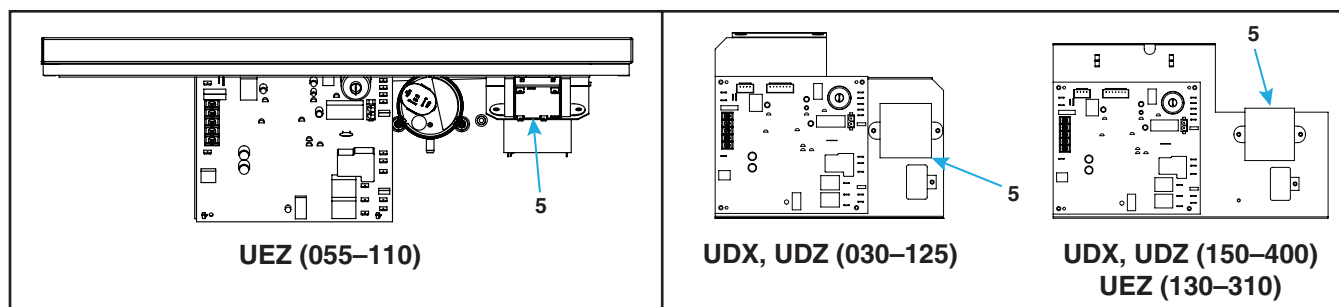


Figure 1. Transformer Location (Refer to [Table 2](#))

3. Install relay assembly on control unit and on all non-control units (see [Figure 2](#)):
 - a. At rear of heater, remove screws from edge of cabinet bottom.
 - b. For model UBX, UBZ, UDX, and UDZ unit sizes 150–400 and all UEZ models, align relay assembly (1) bracket as shown and use bracket as template to drill hole in edge of cabinet bottom as shown.
 - c. Secure relay assembly (1 and 1A) and cable clamp (3) as shown using existing screws for model UBX, UBZ, UDX, and UDZ unit sizes 030–125 or one existing screw and one screw (2) from kit for model UBX, UBZ, UDX, and UDZ unit sizes 150–400 and all UEZ models.

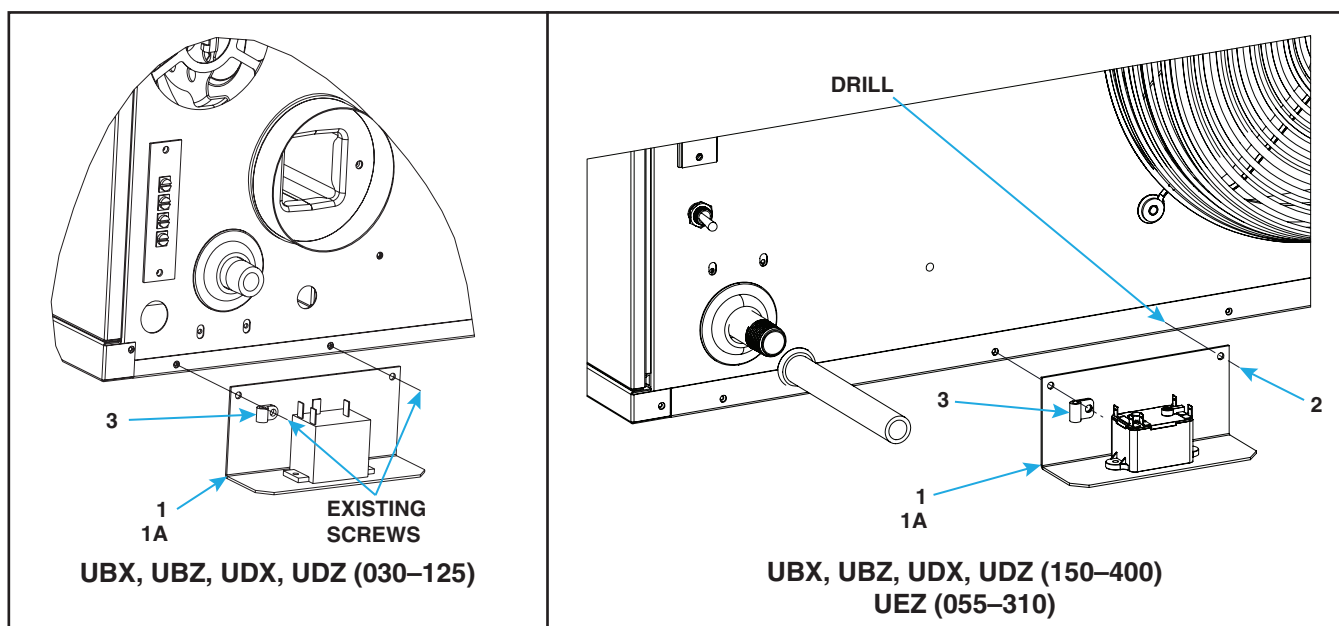


Figure 2. Relay Installation (Refer to [Table 2](#))

⚠ CAUTION ⚠

Be careful not to short thermostat leads to a metal surface. Doing so will cause the transformer to fail and require replacement.

4. Connect relay (1A) to TEW-type control wiring in accordance with model-specific wiring diagram label (4) from kit. Do not exceed length and distance listed in [Table 3](#).

Table 3. Control Wiring Specifications		
Gauge	Maximum Length (Feet (Meters))*	Maximum Distance (Feet (Meters))
12	2100 (640)	1050 (320)
14	1300 (457)	650 (198)
18	500 (152)	250 (76)
*For complete circuit.		

5. Install wiring diagram label:
- For future reference, check appropriate box for heater function—PRIMARY HEATER for control unit or SECONDARY HEATER for non-control unit—on wiring diagram label (4).
 - Locate required wiring diagram label position on bottom rear corner of access panel.
 - Wipe surface with clean, dry cloth.
 - Remove label backing and adhere label to unit.
6. Restore system to service:
- Turn ON gas and electric power.
 - Light heater in accordance with lighting instructions.
 - Check for proper operation.

