

# INSTALLATION INSTRUCTIONS

## 4100 SERIES UNIT LINE

### GENERAL:

REFER TO DATA PLATE ON HEATER AND CONFIRM THAT WATTAGE, VOLTAGE AND PHASE ARE SUITABLE FOR THE ELECTRIC SERVICE SUPPLIED.

WHEN HEATER IS SUPPLIED WITH ALLEN HEAD TAMPERPROOF SCREWS, ALLEN HEAD WRENCH IS TAPED TO THE INSIDE OF THE CENTER BOTTOM AIR INTAKE "WEB" AND IS REMOVABLE WITHOUT DISASSEMBLY OF THE HEATER.

ALL HEATERS (WITH THE EXCEPTION OF THOSE WIRED WITH FACTORY INSTALLED RELAYS) ARE ASSEMBLED SO THAT THE ELECTRICAL SERVICE CAN ENTER EITHER THE LEFT OR RIGHT HAND CONNECTION BOX.

IF HEATERS ARE SUPPLIED WITH FACTORY INSTALLED AND WIRED RELAYS OR THERMOSTATS, BE SURE TO READ SPECIAL INSTRUCTIONS COVERING THESE HEATERS.

FACTORY INSTALLED AND WIRED WIRING CHANNEL CAN BE USED FOR INTERCONNECTIONS OF HEATERS ON THE SAME CIRCUIT TOP TO 40 AMPS.

A WIRING DIAGRAM FOR EACH HEATER IS ATTACHED TO THE INSIDE OF THE LEFT HAND CONNECTION BOX COVER.

ALL SURFACE MOUNTED HEATERS ARE APPROVED FOR CONNECTION TO STANDARD 60°C WIRE. RECESSED HEATERS REQUIRE 75°C WIRE. SEE FORM MB-1046

WARNING: TO REDUCE THE RISK OF FIRE, DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THE HEATER.

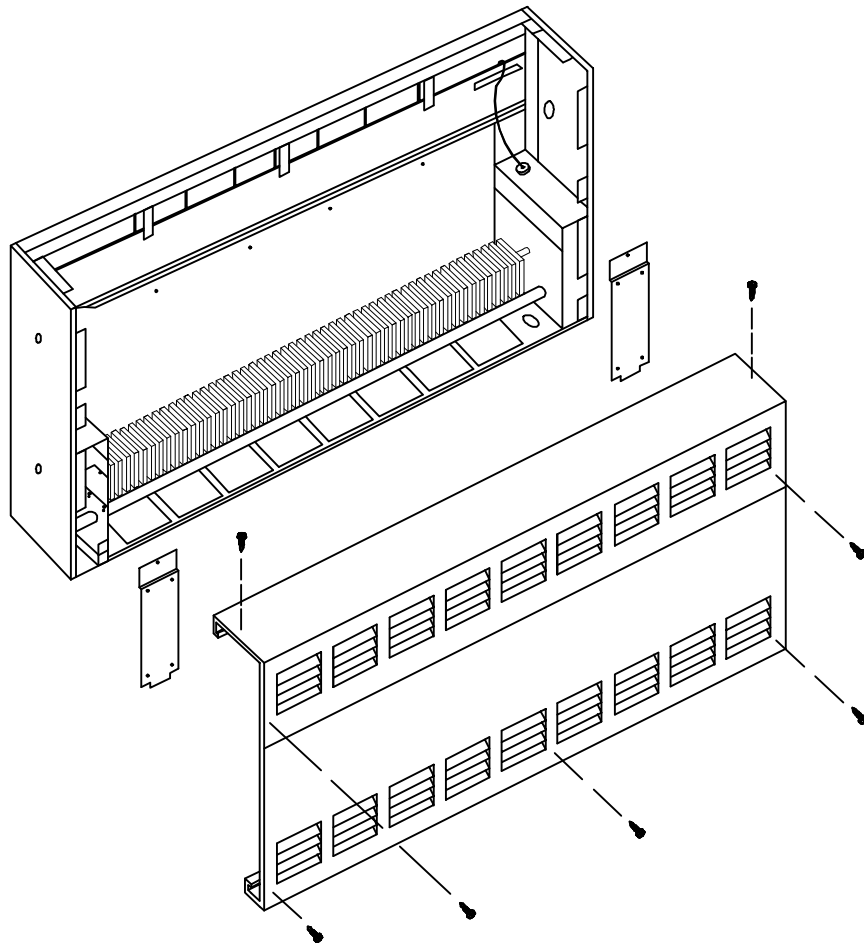
CAUTION: HIGH TEMPERATURES, KEEP ELECTRICAL CORDS, DRAPES AND OTHER FURNISHINGS AWAY FROM HEATER.

REV. 7-87 (UL 1042)

### DISASSEMBLY OF HEATERS:

1. REMOVE SEVEN ENCLOSURE RETAINING SCREWS ON FRONT AND TOP OF HEATER.
2. SWING BOTTOM OF FRONT PANEL OUT AND LIFT UP TO DISENGAGE TOP.
3. REMOVE CONNECTION BOX COVERS.

NOTE: HEATERS WITH BOTTOM AIR INTAKE MUST BE MOUNTED A MINIMUM OF 3" OFF THE FLOOR. HEATERS WITH A LOUVERED INTAKE AT THE BOTTOM OF THE FRONT PANEL MAY BE MOUNTED DIRECTLY ON THE FLOOR. UPPER AND LOWER MOUNTING SLOTS ARE ACCESSIBLE WITHOUT REMOVING THE AIR BAFFLE (WHERE SUPPLIED)



### SINGLE UNIT INSTALLATION:

1. LOCATE AND REMOVE CORRECT KNOCK-OUTS FOR SERVICE ENTRANCE.
2. PLACE HEATER AGAINST WALL, LEVEL AND MARK DESIRED MOUNTING HOLES. REMOVE HEATER AND DRILL MOUNTING HOLES. MOUNTING SLOTS ARE PROVIDED ON THE BACK PANEL AT THE TOP AND BOTTOM ON APPROXIMATELY 4" CENTERS. SCREW ANCHORS OR WOOD SCREWS MAY BE USED AS DICTATED BY THE MOUNTING SURFACE.

- BRING SUPPLY LEADS IN THROUGH PREVIOUSLY REMOVED KNOCK-OUT IN CONNECTION BOX. CONSULT AND WIRE ACCORDING TO WIRING DIAGRAM LOCATED ON THE LEFT HAND CONNECTION BOX COVER.

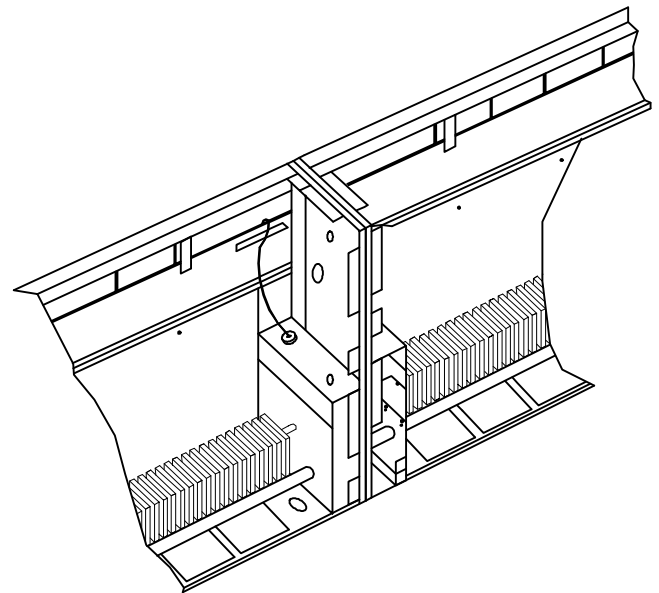
ALL FIELD SERVICE CONNECTION WIRES ARE ACCESSIBLE FROM EITHER CONNECTION BOX AND ARE THE ONLY SINGLE LEADS EXPOSED. WITH THE EXCEPTION OF HEATERS EQUIPPED WITH FACTORY INSTALLED AND WIRED RELAYS, ALL SERVICE CONNECTIONS LEADS ARE PROVIDED WITH A WIRE NUT.

- CONNECT GROUND LEAD TO GREEN GROUND SCREW PROVIDED ON BACK OF CONNECTION BOX.
- REPLACE CONNECTION BOX COVERS AND FRONT PANEL.
- TEST HEATERS AND CONTROLS FOR PROPER OPERATION.

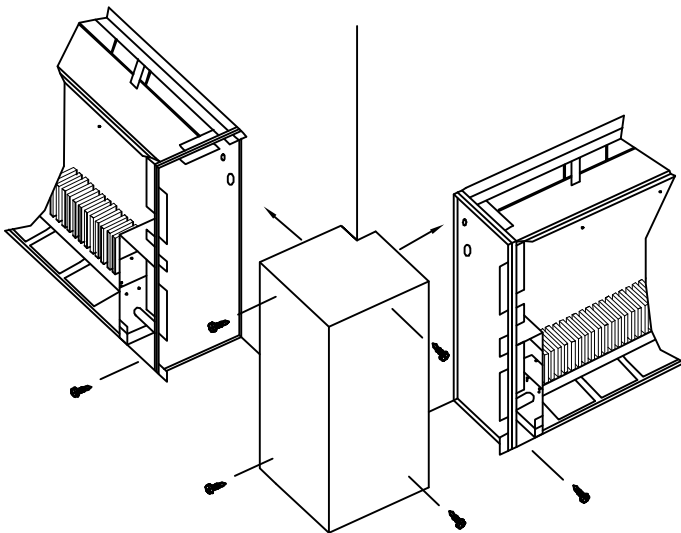
INSTALLATION INSTRUCTIONS FOR HEATERS USING LOW VOLTAGE RELAY-TRANSFORMER (24 VOLTS) WHEN LOW VOLTAGE RELAYS WITH OR WITHOUT TRANSFORMER ARE USED, THEY ARE MOUNTED IN RIGHT HAND JUNCTION BOX. THIS HEATER SUPPLY WILL BE BROUGHT INTO THE LEFT HAND JUNCTION BOX. THE CONTROL WIRING WILL BE BROUGHT INTO THE LOWER SECTION OF RIGHT HAND JUNCTION BOX WHERE THE CONNECTION WILL BE MADE TO THE RED AND WHITE WIRES. THE RATING OF THIS RELAY-TRANSFORMER IS 22 AMPS AT 250 VOLTS. WIRE ACCORDING TO WIRING DIAGRAM ON HEATER.

MULTIPLE UNIT INSTALLATION:

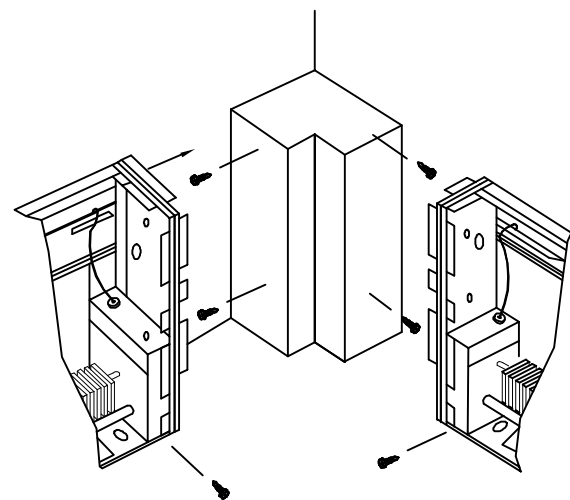
- LOCATE AND REMOVE CORRECT KNOCK-OUT FOR SERVICE ENTRANCE.
- MOUNT HEATERS ON THE WALL, ADJACENT TO EACH OTHER, LEAVING  $\frac{1}{16}$ " BETWEEN HEATERS FOR EXPANSION. LEVEL IN HORIZONTAL POSITION.
- USING PREWIRED TUBULAR WIRE-WAY WHEN REQUIRED, INTERCONNECT UNITS IN PARALLEL UP TO A MAXIMUM OF 40 AMPS FOLLOWING THE WIRING DIAGRAMS ON THE LEFT HAND CONNECTION BOX COVER.
- ATTACH GREEN GROUND WIRE (WITH RING TERMINAL SUPPLIED IN ENVELOPE) TO GREEN GROUND SCREWS IN CONNECTION BOXES FOR CONTINUOUS GROUNDING OF UNITS.
- REPLACE CONNECTION BOX COVERS AND FRONT PANELS.
- CHECK HEATERS AND CONTROLS FOR PROPER OPERATION.



INSTALLATION OF UNITS AROUND CORNER USING INSIDE-OUTSIDE CORNER



AS OUTSIDE CORNER



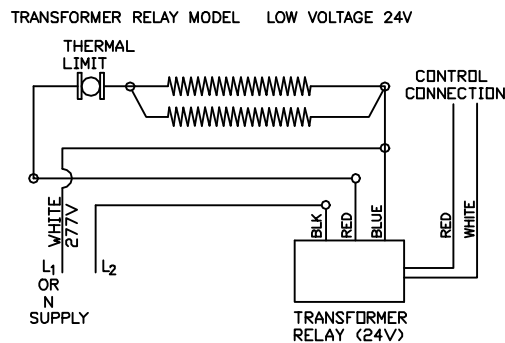
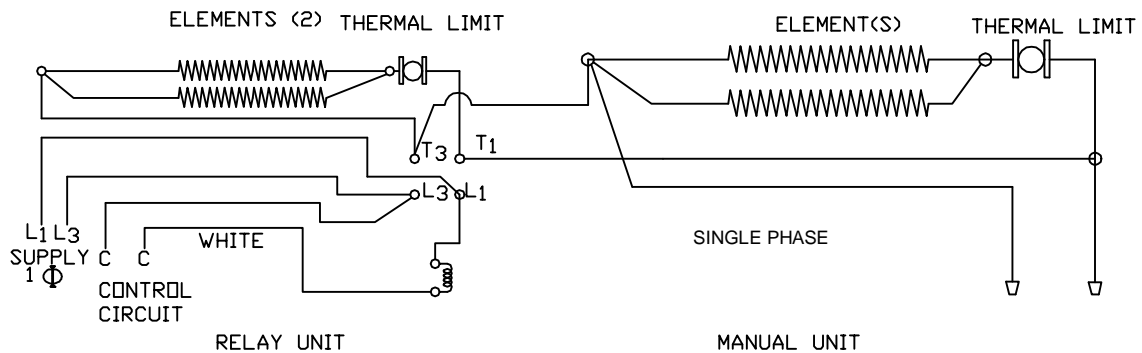
AS INSIDE CORNER

1. FOR SINGLE UNIT CONTROL ATTACH FIELD SERVICE CONNECTION WIRES IN EITHER CONNECTION BOX. DO NOT CONNECT FIELD SERVICE WIRING TO LEADS(S) BRACELETED "B" AND/OR "C".
2. NOTE: FOR CONTROL OF TWO OR MORE HEATERS FROM BUILT IN THERMOSTAT, THE ADJACENT WITHOUT THERMOSTAT MUST BE ON THE THERMOSTAT SIDE OF THE THERMOSTAT EQUIPPED HEATER. FOR WIRING OF ADJACENT HEATER "B" AND OR "C" LEAD(S) MUST BE ROUTED TO THE ADJACENT HEATER CONNECTION BOX.

THE SINGLE POLE THERMOSTAT HAS ONE JUMPER TO BE ATTACHED TO ONE SIDE OF THE ADJACENT HEATER CIRCUIT. ON 277, 208, AND 240 VOLT MODELS ATTACH THE BLACK LEAD. OPTIONAL UNIT MOUNTED CONTROLS ARE SUITABLE FOR SINGLE PHASE UNITS ONLY.

THREE PHASE UNITS MUST HAVE REMOTE CONTROLS. SEE TYPICAL WIRING DIAGRAMS.

SPECIAL INSTRUCTIONS FOR INSTALLATION OF HEATERS EQUIPPED WITH FACTORY INSTALLED AND PREWIRED RELAYS:



NOTE: MAKE SUPPLY CONNECTIONS IN CONNECTION BOX NOT CONTAINING THE RELAY. DO NOT CONNECT COMBINATIONS OF HEATERS WHICH WOULD EXCEED THESE RATINGS.

1. MAKE NECESSARY CONNECTIONS ACCORDING TO THE WIRING DIAGRAM ON THE CONNECTION BOX COVER.

SUFFIX R2 HEATER MODEL NUMBER INDICATES HONEYWELL R841D LOW VOLTAGE RELAY RATED 22 AMPS UP TO 240 VOLTS AND 19 AMPS UP TO 277 VOLTS AND WILL BE USED ON SINGLE PHASE HEATERS ONLY.

SUFFIX R9 HEATER MODEL NUMBER INDICATES HONEYWELL R841C LOW VOLTAGE TRANSFORMER RELAY RATED 22 AMPS UP TO 240 VOLTS AND 19 AMPS AT 277 VOLTS AND WILL BE USED ON SINGLE PHASE HEATERS ONLY.

IMPORTANT: WHERE MORE THAN ONE HEATER IS TO BE CONTROLLED BY THE RELAY, PIGTAILS ARE SUPPLIED IN THE RELAY BOX FOR THE CONNECTIONS. THE SECOND HEATER TO BE CONTROLLED FROM THE RELAY MUST BE MOUNTED ADJACENT TO THE RELAY END OF THE HEATER. REMOVE WIRE CONNECTIONS FROM PIGTAILS IN RELAY CONNECTION BOX AND WIRE IN PARALLEL TO ADJACENT HEATERS.

SPECIAL INSTRUCTIONS FOR INSTALLATION OF CORNER SECTION:

1. REMOVE END CAPS FROM CORNER SECTION.
2. POSITION AND MOUNT CORNER SECTION, (MINIMUM OF THREE INCHES OFF FLOOR WITH BOTTOM INTAKE HEATERS) WITH SCREWS OR ANCHOR BOLTS, (FIELD SUPPLIED).
3. REPLACE CORNER END CAPS.
4. MOUNT AND WIRE HEATER ON EACH SIDE OF CORNER SECTION.
5. REPLACE CONNECTION BOX COVERS AND FRONT PANELS OF HEATERS.
6. CHECK FOR PROPER OPERATION OF HEATERS AND CONTROLS.

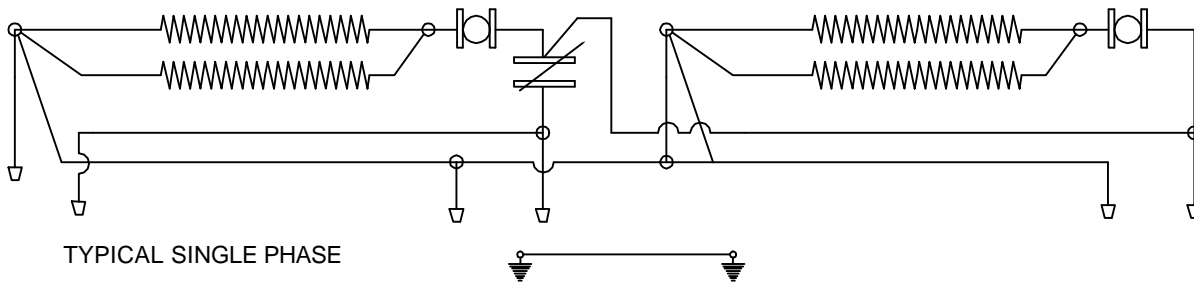
SPECIAL INSTRUCTIONS FOR INSTALLATION OF CONTROL SECTION:

1. THE CONTROL SECTION IS DESIGNED TO HOUSE SPECIAL CONTROLS WHICH CANNOT BE INSTALLED IN THE HEATERS THEMSELVES. THESE CONTROLS MAY BE PNEUMATIC RELAYS, CONTROL TRANSFORMERS, BRANCH CIRCUIT FUSING, OR ADDITIONAL RELAYS OR CONTACTORS.
2. CONTROL SECTION SHOULD BE MOUNTED SECURELY TO THE WALL, ADJACENT TO THE HEATERS, FOLLOWING THE PROCEDURES OUTLINED UNDER MULTIPLE UNIT INSTALLATION.

BLANK SECTIONS:

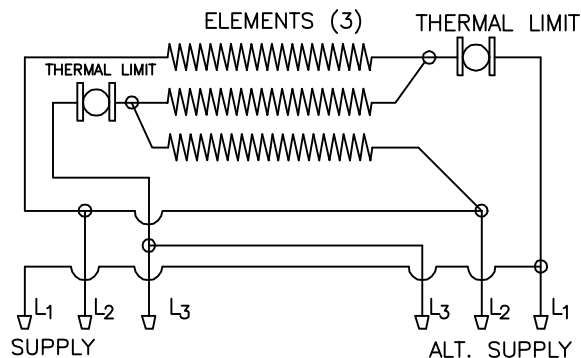
BLANK SECTIONS SHOULD BE MOUNTED USING PROCEDURES OUTLINED IN MULTIPLE UNIT INSTALLATION. BLANK SECTIONS ARE EQUIPPED WITH A PREWIRED TUBULAR WIRE-WAY FOR INTERCONNECTION OF HEATERS IN THE SAME CIRCUIT.

SPECIAL INSTRUCTIONS FOR THERMOSTAT EQUIPPED HEATERS:



THREE PHASE HEATERS:

THREE PHASE 208V & 240V



NOTE: NORMALLY, SINGLE POLE THERMOSTATS ARE SUPPLIED IN SINGLE PHASE HEATERS. DOUBLE POLE THERMOSTATS FOR SINGLE PHASE HEATERS ARE AVAILABLE ON SPECIAL ORDER. INTEGRAL CONTROLS ARE NOT AVAILABLE ON THREE PHASE UNITS. THERMOSTATS ARE RATED AT 25 AMPERES AT 277 VOLTS MAXIMUM AND SHOULD NOT BE CONNECTED TO A COMBINATION OF HEATERS EXCEEDING THE RATED CAPACITY.

# INSTALLATION INSTRUCTIONS FOR RECESSED HEATERS: 4125 & 4145 SERIES

1. OBSERVE DISASSEMBLY INSTRUCTIONS FOR ALL HEATERS.
2. NOTE SKETCH SHOWING CLEARANCES REQUIRED ABOVE HEATER AND ON SIDES. ( $\frac{1}{4}$  INCH ON ALL SIDES.) PREPARE OPENING USING THESE DIMENSIONS.
3. ATTACH FRAME TO THE WALL AS SHOWN. INSTALL CORNERS BEFORE MOUNTING. WHEN FLUSH MOUNTED ON FLOOR, THE LOWER RAIL AND TWO CORNERS CAN BE DISCARDED.
4. PLACE HEATER IN RECESSED OPENING, MARK DESIRED MOUNTING HOLES. REMOVE HEATER AND DRILL HOLES.
5. MOUNT HEATER BRING SERVICE LEADS THROUGH PREVIOUSLY REMOVED KNOCKOUT IN CONNECTION BOX. CONSULT AND WIRE ACCORDING TO WIRING DIAGRAM LOCATED ON LEFT HAND JUNCTION BOX COVER. ALL FIELD SERVICE WIRES ARE ACCESSIBLE FROM EITHER CONNECTION BOX AND ARE THE ONLY SINGLE LEADS EXPOSED. WITH THE EXCEPTION OF HEATERS EQUIPPED WITH FACTORY INSTALLED AND WIRED RELAYS, ALL SERVICE CONNECTION LEADS ARE PROVIDED WITH WIRE NUT.
6. CONNECT GROUND LEAD TO GREEN GROUND SCREW PROVIDED ON BACK OF CONNECTION BOX.
7. REPLACE CONNECTION BOX COVERS. REPLACE FRONT PANEL BY SLIDING IN HORIZONTALLY.
8. TEST HEATERS AND CONTROLS FOR PROPER OPERATION.

NOTE: WHERE UNIT IS TO BE MOUNTED AT FLOOR LEVEL, SUBTRACT  $\frac{1}{4}$  INCH FROM DIMENSION B.

UNIT LENGTH (INCHES)	DIMENSION A (INCHES)	DIMENSION B (INCHES)	
		412	4145
72	72	11	20
60	60	11	20
48	48	11	20
36	36	11	20
24	24	11	20

