


# Installation Instructions

**NOTE:** Read the entire instruction manual before starting the installation.

## SAFETY CONSIDERATIONS

Installing and servicing air conditioning equipment can be hazardous due to system pressures and electrical components. Only trained personnel should install or service air conditioning equipment.

Untrained personnel can perform basic maintenance functions such as cleaning coils, or cleaning and replacing filters. All other operations should be performed by trained service personnel. When working on air conditioning equipment, observe precautions in the literature, on tags, and on labels attached to the unit.

Recognize safety information. This is the safety-alert symbol . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand these signal words; DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. NOTE is used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

Follow all safety codes. Wear safety glasses and work gloves.

Use only the kit components described in this installation procedure.

## **WARNING**

### **ELECTRICAL OPERATION HAZARD**

Failure to follow this warning could result in personal injury or death.

Before beginning any installation or modification, be sure the main electrical disconnect switch is in the OFF position. TAG THE DISCONNECT SWITCH WITH A SUITABLE WARNING LABEL.

## INTRODUCTION

This instruction covers installation of outdoor thermostat Part No. KHAOT0301FST and KHAOT0201SEC on split-system heat pumps.

## DESCRIPTION AND USAGE

Part No. KHAOT0301FST can be used with systems requiring 2 stages of supplemental heat (usually less than 24 kW with 2 relays) or with the dual fuel interface control. When installing 2 outdoor thermostats, this kit must be installed first.

Part No. KHAOT0201SEC is for installation in systems using 18-, 20-, 24-, and 30-kW heaters requiring 3 stages of supplemental heat. This kit, which includes emergency heat relay Part No. HN61KL023, is used in addition to Part No. KHAOT0301FST.

**NOTE:** The temperature setting of outdoor thermostats is critical to the operation of the unit. Consult the system designer's specifications.

Outdoor thermostat kits include the following items:

### **KHAOT0301FST**

- Outdoor thermostat bracket - 1
- Outdoor thermostat - 1
- Pointer knob - 1
- Wiring label - 1
- Wire assembly - 3
- Screw - 4
- Installation Instructions - 1
- Outdoor thermostat bracket label - 1

### **KHAOT0201SEC**

- Outdoor thermostat - 1
- Pointer knob - 1
- Wiring label - 2
- Wire assembly - 2
- Screw - 4
- Emergency heat relay assembly - 1
- Installation Instructions - 1

**STEP 1 —Installation of Part No. KHAOT0301FST with 2-Stage Heaters**

**NOTE:** Use only this kit on systems with less than 20-kW supplemental electric heaters, excluding 18 kW. Refer to Fig. 1 and 2 for installation.

1. Turn off electrical supply if unit is already installed.
2. Remove access panel.
3. Install thermostat on bracket.



**CAUTION**

**UNIT DAMAGE HAZARD**

Failure to follow this caution may result in equipment damage or improper operation.

To avoid damaging tubing, check behind panel prior to drilling holes for bracket.

4. Apply thermostat bracket label to bracket and install pointer knob.
5. Install thermostat bracket inside thermostat box. Avoid interference with other components or sheet metal.
6. Position box in location shown. Mark panel and drill 2 holes.
7. Mount outdoor thermostat assembly inside control box.
8. Connect 2 wire assemblies to terminals 2 and 3 of outdoor thermostat.
9. Route wires to outdoor unit low-voltage wires and connect to W2 and W3. (See Fig. 3.)
10. On indoor unit low-voltage wires, remove W3 from the crimp nut. Leave W2 and E in the crimp nut.
11. Set pointer knob to desired temperature. Consult system designer's specifications.
12. If kit installation is at time of initial unit installation, proceed to install unit in accordance with instructions packaged with unit.

**STEP 2 —Installation of Part No. KHAOT0201SEC with 2-Stage Heaters**

**NOTE:** Use this kit on systems with 18-, 20-, 24-, and 30-kW supplemental electric heat and in conjunction with Part No. KHAOT0301FST.

This kit cannot be installed in the unit without prior installation of Part No. KHAOT0301FST.

To install Part No. KHAOT0201SEC:

1. Install outdoor thermostat control on outdoor thermostat bracket (supplied in Part No. KHAOT0301FST).
2. Install pointer knob.
3. Connect 2 wire assemblies to terminals 2 and 3 of outdoor thermostat.
4. Connect wire assemblies to W3 and E. (See Fig. 4.)
5. Remove and discard factory crimp nut from W2, W3, and E of indoor unit low-voltage wires.
6. Set pointer knob to desired temperature. This setting should be a few degrees below setting of KHAOT0301FST thermostat. Consult system designer's specifications.

**NOTE:** Emergency heat relay is not required for use with indoor thermostats that can energize W2 when emergency heat is requested.

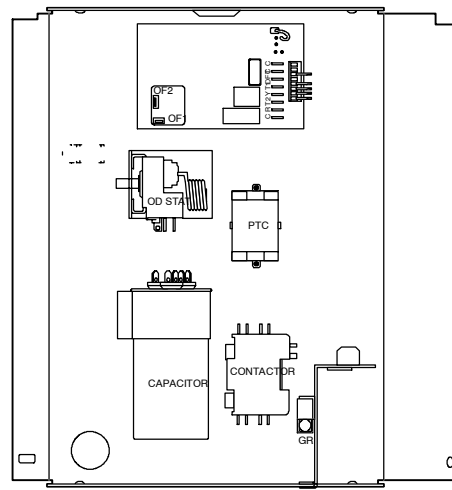
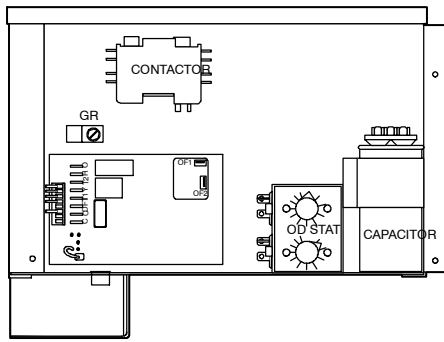
7. Install emergency heat relay in control compartment of indoor unit supplemental heat section.
  - a. Drill hole in bottom of control compartment.

**NOTE:** It is recommended that hole be drilled from bottom side of heat section before emergency heat relay is installed.

- b. Using relay mounting bracket, attach relay to bottom of supplemental heat control compartment.
  - c. Connect wires from relay in accordance with wiring label provided in kit or Fig. 5.
8. If kit installation is at time of initial unit installation, proceed to install unit in accordance with instructions packaged with unit.

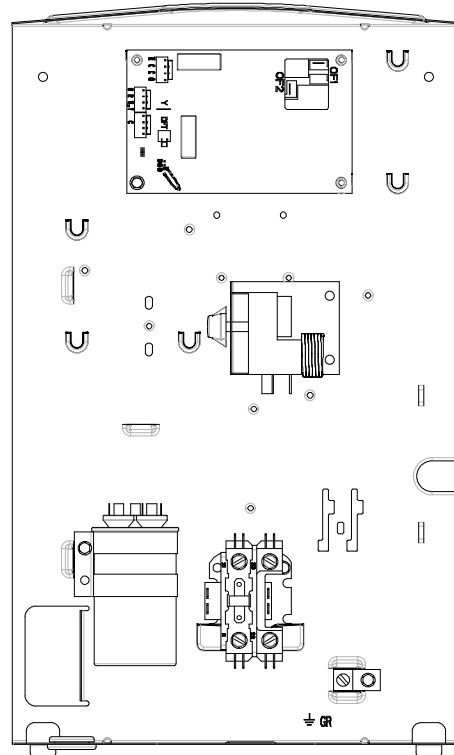
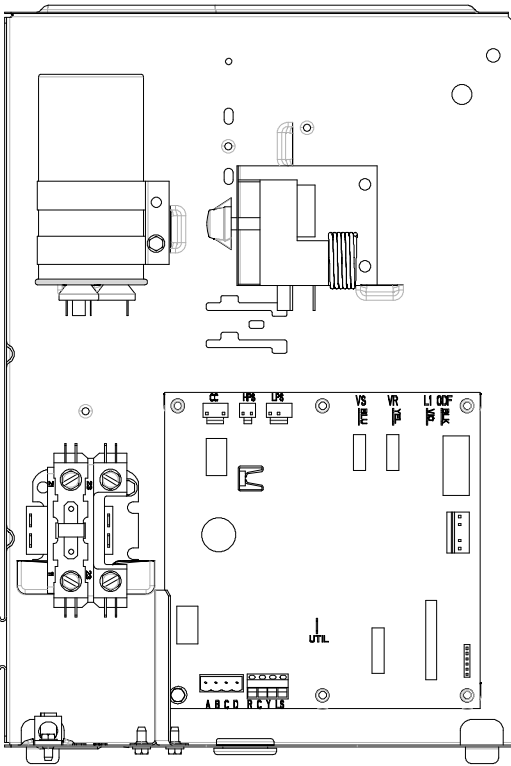
**STEP 3 —Installation of Part No. KHAOT0301FST with Dual Fuel Interface Control Kit**

For applications using an interface control, refer to wiring diagrams packaged with interface control Installation Instructions.



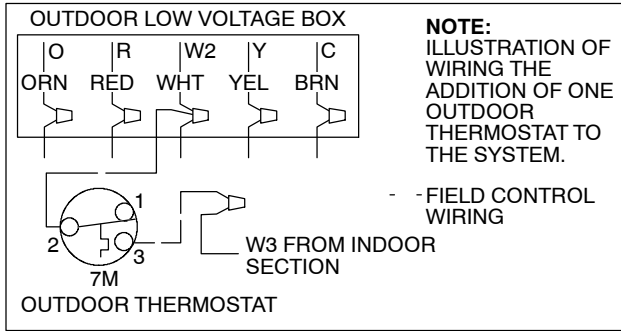
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**Fig. 1 - Outdoor Thermostat Mounting Location for Tech2000, Reliant, and Cube Product**

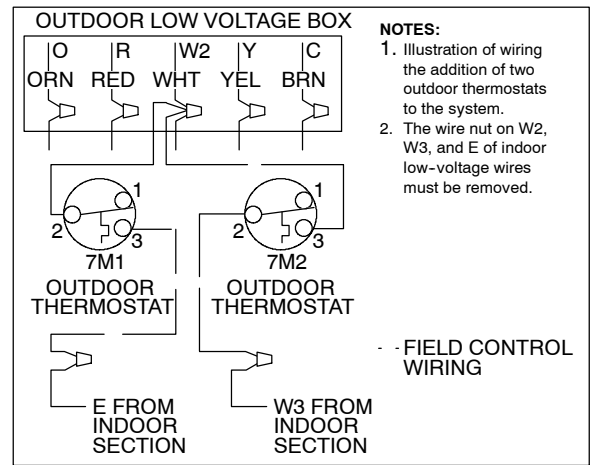


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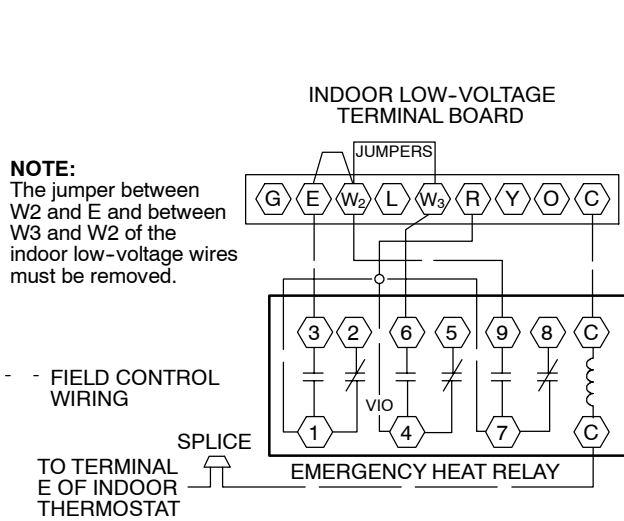
**Fig. 2 - Outdoor Thermostat Mounting Location for Base / Legacy / Comfort / Performance / Preferred Series Units**



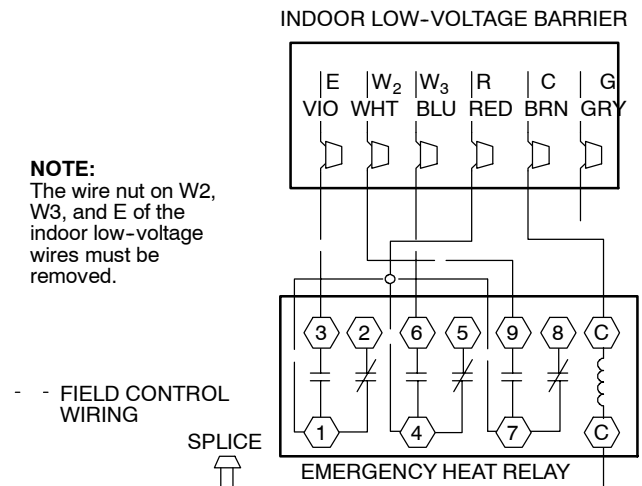
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**Fig. 3 - Field Connections for 1 Outdoor Thermostat (Less Than 20-kW Heaters, Excluding 18 kW)**



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**Fig. 4 - Field Connections for 2 Outdoor Thermostats (18-, 20-, 24-, and 30-kW Heaters Only)**



**Fig. 5 - Field Connections for Emergency Heat Relay**



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