

INSTALLATION INSTRUCTIONS


Low Ambient Temperature Controller Accessory for R-410A Part Number NADA002LA

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury, or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing, and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

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 **would** 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.

These instructions must be read and understood completely before attempting installation.



WARNING

ELECTRICAL SHOCK HAZARD

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

Before installing, modifying, or servicing system, main electrical disconnect switch must be in the OFF position. There may be more than one disconnect switch. Lock out and tag switch with a suitable warning label.



CAUTION

UNIT OPERATION AND SAFETY HAZARD

Failure to follow this caution may result in property damage. Systems containing R-410A refrigerant operate at higher pressures than systems containing R-22 refrigerant. Do not use R-22 refrigerant service equipment or components on systems containing R-410A.

GENERAL

IMPORTANT: Heat pump models require an isolation relay and field wiring to prevent fan cycling in heat pump mode. See **Table 1** for isolation relay part numbers.

Table 1	Isolation Relay Part Number	
Models	Part Number	Voltage
9K, 12K	P283-0291	120V
12K	P283-0292	240V
18K, 24K	P283-0292	240V

Wind baffles are required for low ambient operation. The baffles are field fabricated using factory drawings (see **Table 2** for drawing numbers).

Table 2	Wind Baffle Drawing for R410-A
Models	Part Number
9K	53DS-900---097
12K	53DS-900---097
18K	53DS-900---098
24K	53DS-900---099

These instructions cover the installation of low ambient temperature controller accessory kit on the duct-free cooling and heat pump condensing units.

Crankcase Heater is required for low ambient operation and must be added. This is a separate accessory to be installed.

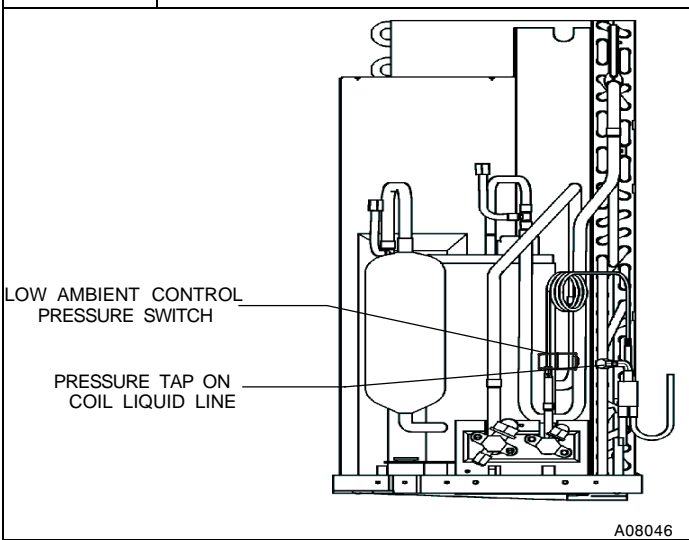
These instructions cover the installation of low ambient temperature control accessory kit on the duct-free cooling and heat pump condensing units.

The low ambient temperature control (LAC) is a high cycle rate pressure switch that directly controls the outdoor fan motor.

The low ambient temperature control is designed to maintain a condensing pressure of 255 to 295 psig by directly cycling the outdoor-fan motor. No field adjustments or calibrations are required.

When unpacking the accessory, carefully inspect for shipping damage. If damage is evident, return for replacement.

Figure 1 Mount Low Ambient Temperature Control



INSTALLATION

1. All of the components required for the correct installation of the low ambient control are included in the kit.
2. Remove access panels and locate pressure tap on liquid line.
3. Place three drops of compressor oil in the pressure switch for lubrication.
4. Mount switch as shown in **Figure 1**.
5. For heat pump units only, mount isolation relay in control box.
6. Determine locations for electrical connections (see **Figure 2** or **Figure 3**).
7. Cut pressure switch leads to correct length and apply the required terminations from the selection supplied in the low ambient control kit.
8. For heat pump units only, use the cut off lead and terminations supplied with the kit to make up the required field wires as shown in **Figure 3**.

Figure 2 Low Ambient Temperature Control Location – Cooling Only Models 9 – 24

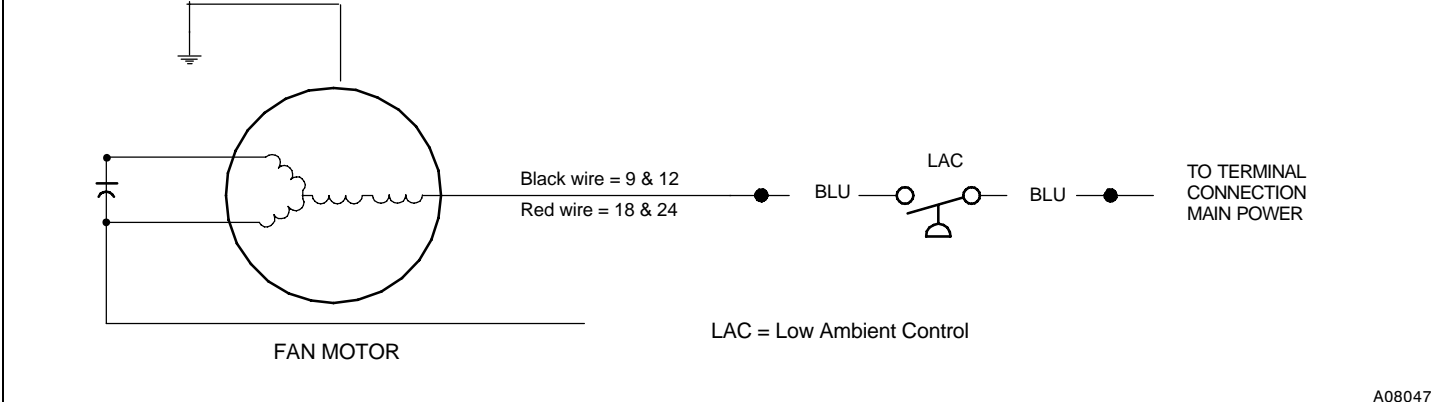
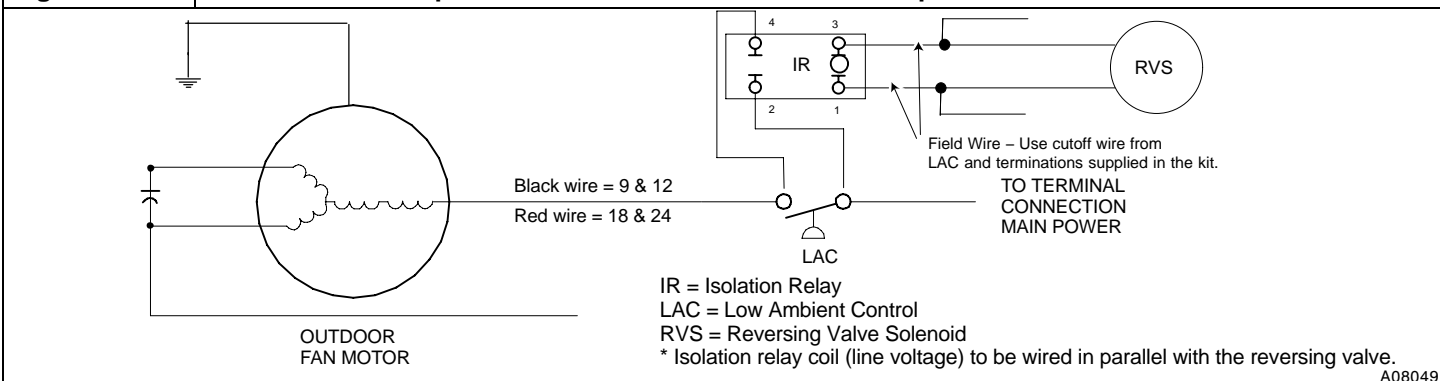


Figure 3 Low Ambient Temperature Control Location – Heat Pump Models 9 – 24



CHECK OPERATION

Before starting the system to check operation of low ambient temperature control, ensure that the power wiring and location of control assembly are correct. To check operation of low ambient temperature control:

1. Turn power on to system.
2. Set thermostat below room temperature.
3. Ensure that there is the standard 3-minute time delay for the microprocessor controlled high wall fan coil system.
4. Check time delay of installed accessories: Under-ceiling fan coils using the duct-free 24-v thermostat delay settings: 2 or 4 minute delay.

The outdoor fan motor will not operate until the condensing pressure reaches the control set point of 295 psig (+/- 10 psig). When the set point is reached, the outdoor fan will cycle to maintain the set point condensing pressure. If the low ambient temperature controller does not operate correctly:

- Ensure that power is being supplied to the system.
- Check condensing pressure: if condensing pressure is below 255 psig the outdoor fan motor should be off and there should be no voltage across the two (2) blue fan power leads coming out of the controller. If condensing pressure is about 295 psig or greater, the outdoor fan motor should be on and will cycle off at around 255 psig.