


Installation Instruction

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.

WARNING

ELECTRICAL SHOCK 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.

This kit is for 24 VAC applications **ONLY**. Do Not use or connect to any high voltage wiring.

CAUTION

CUT HAZARD

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.

INTRODUCTION

This instruction covers the installation of winter start control Part No. KAAWS0101AAA on split-system air conditioners. The device is designed to alleviate nuisance opening of the low-pressure switch by bypassing it for the first 3 minutes of operation.

DESCRIPTION AND USAGE

Winter start control must be used where low evaporator temperatures, or nuisance tripping of low-pressure switch may be encountered.

The kit contains the following items:

- (1) Time-Delay Relay (TDR) CESO130062-00
- (1) Installation Instructions
- (1) 13" (330 mm) Blue (tap) Wire
- (1) 13" (330 mm) Yellow Wire
- (1) 13" (330 mm) Brown Wire
- (1) Insulated Tap Connector (HY89TC014)
- (3) Screws

Use only the kit components described in this installation procedure.

INSTALLATION

NOTE: If a fully communicating Infinity/Evolution Control is being used for low ambient cooling, a winter start control is not required.

For outdoor units with Infinity/Evolution and TechAssist single-stage control boards and two-stage non-communicating AC:

1. Mount the winter start control board in outdoor control box using provided screws. If necessary, mark and drill 1/8" diameter pilot holes.
2. Connect the following wires to the TDR:
 - 13" (330 mm) Yellow wire to T1 (24 VAC input)
 - 13" (330 mm) Brown wire to T3 (24 VAC common)
 - 13" (330 mm) Blue-tap wire to T2 (N.O. relay contact)
3. Secure the open end of Blue Tap wire to the insulated tap connector (see Fig. 1). To do this, simply butt the tap-wire against the wire stop. Fold the top cover half over to meet the base. Squeeze on the top cover and base with ordinary pliers until the latch locks. **DO NOT** place pliers on top of the raised plastic flange.
4. Identify the LPS (low pressure switch) connector at the ODU circuit board, and identify the 24vac LPS run-wire (or main lead) for the pressure switch. The LPS run-wire is different between circuit boards (see Fig. 3, 4, 5 and 6).
 - Infinity/Evolution (HK38EA004) LPS run-wire is connected to pin #1 (see Fig. 3).
 - TechAssist (HK35AC005) LPS run-wire is connected to pin #2 (middle pin) (see Fig. 4).
 - Two-stage non-communicating AC LPS run-wire is located just before quick connect connecting to high pressure switch (see Fig. 5).
 - Two-stage communicating AC (HK38EA016) LPS run-wire is connected to pin #2 (middle pin, see Fig. 6).
 Secure the LPS run-wire by inserting the run-wire into the remaining open section of connector. Fold the base over to meet the run-wire section. Squeeze on the base and run-wire section with ordinary pliers until the latch locks. **DO NOT** place pliers on top of the raised plastic flange.
5. Connect the open strip end of 13" (330 mm) Brown wire to (C) 24vac common side of the ODU and thermostat field connections.
6. Connect the open strip end of 13" (330 mm) Yellow wire to (Y) single stage and Y1 2-stage) 24vac side of the ODU and thermostat field connections.

Additional Installation Instructions for Two-stage Communicating Capable AC Units:

When TDR is in the circuit and allowing the low pressure switch to be bypassed but is closed, the outdoor transformer may be out of phase with the indoor transformer causing the ID or OD fuse to blow.

To eliminate this possibility, the outdoor transformer needs to be removed from the circuit.

To do this:

1. Remove the red and black wires from the outdoor transformer secondary that are attached to SEC 1 and SEC 2 on the control board.
2. Remove the black wire connected to the primary side of the transformer and the other side from 11 of the contactor. Since the transformer powers the outdoor control board and compressor solenoid, a low voltage control wire will need to be connected from R on the indoor to the UTIL terminal on the control board. See Fig. 6.

NOTE: The Winter Start Control time-delay logic is now wired in parallel with the outdoor unit low-pressure switch. When indoor thermostat calls, the TDR logic will energize (closing T1, T2) for approximately 3-minutes bypassing the LPS. After 3-minutes, the TDR logic will de-energize (opening T1, T2) and the LPS circuit is restored (see Fig. 2).

Troubleshooting Upon Start-up

If the TDR does not energize, make sure LPS run and tap wires are not reversed (double check figures below). You can also apply 24vac direct to T1 and T3 to verify that the TDR relay will energize.

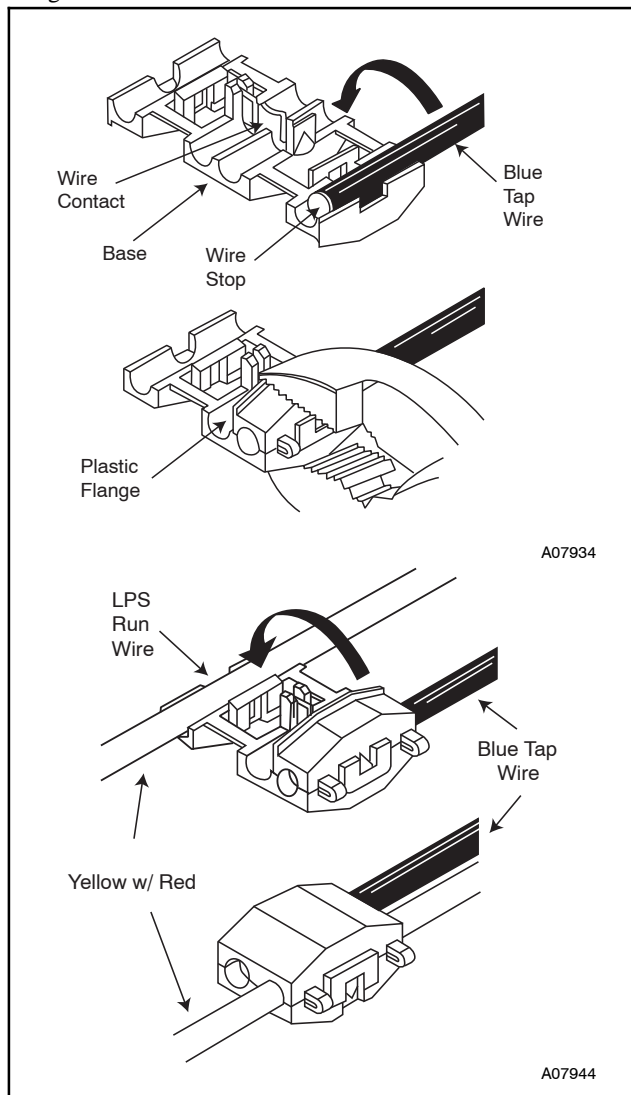


Fig. 1 - Installation

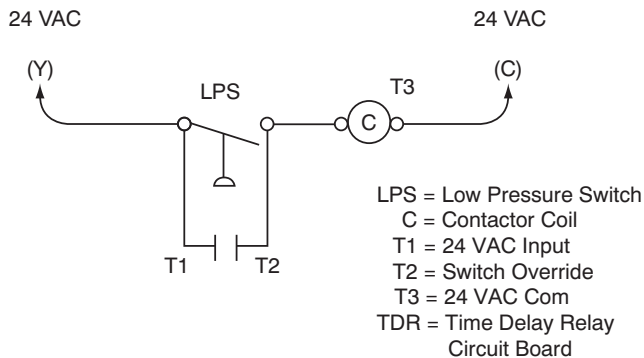


Fig. 2 - Wiring for Winter Start Control

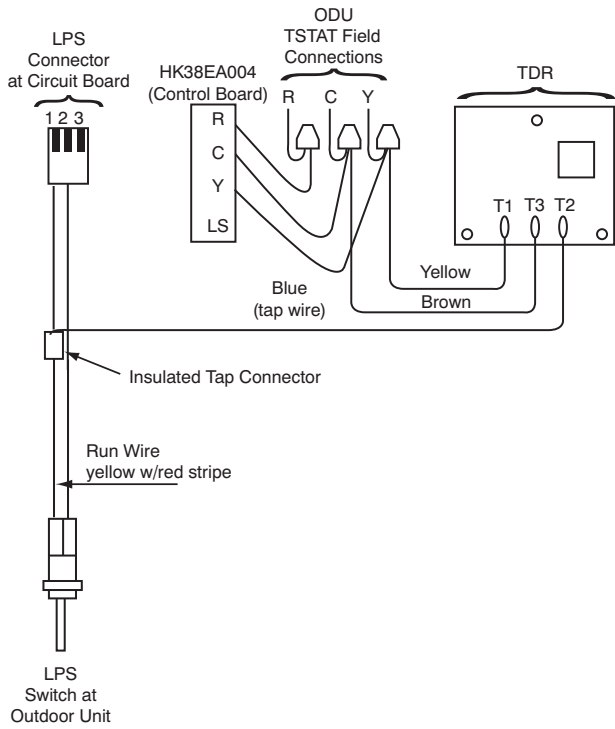


Fig. 3 - Infinity/Evolution (HK38EA004)
LPS Run-Wire is Connected to pin #1

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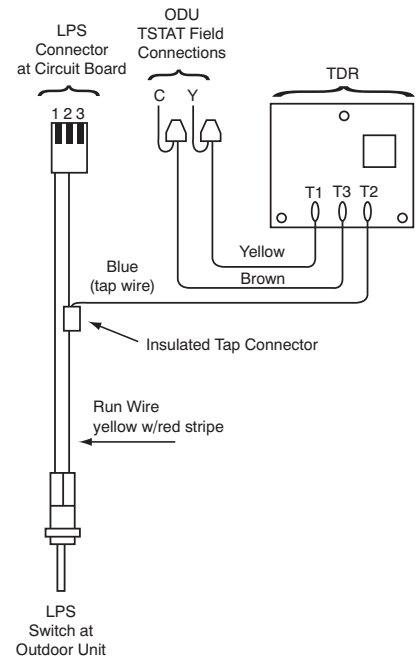


Fig. 4 - TechAssist (HK35AC005)
LPS Run-Wire is Connected to pin #2

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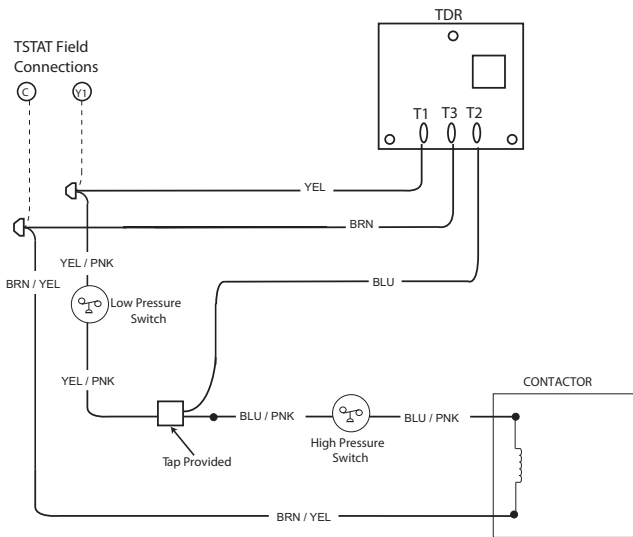


Fig. 5 - Two-Stage Non-Communicating LPS
Run-Wire is Connected to HPS

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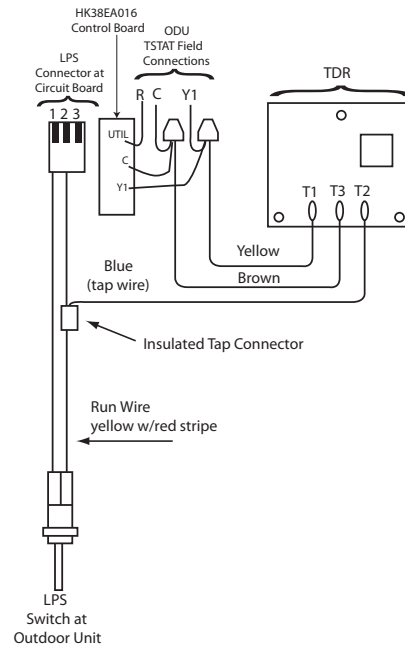


Fig. 6 - Two-Stage Communicating (HK38EA016)
LPS Run-Wire is Connected to Pin #2

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