

Installation Instructions

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

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 a dry powder or CO₂ 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 current editions of the National Electrical Code (NEC) NFPA 70. In Canada, refer to current editions of the Canadian electrical code CSA 22.1.

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.

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 1 disconnect switch. Lock out and tag switch with a suitable warning label.

WARNING

EXPLOSION HAZARD

Failure to follow this warning could result in death, serious personal injury, and/or property damage. Never use air or gases containing oxygen for leak testing or operating refrigerant compressors. Pressurized mixtures of air or gases containing oxygen can lead to an explosion.

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

These instructions cover installation of Isolation Relay for use on split system single and two stage heat pumps kit number KHAIR0201AAA using permanent split capacitor (PSC) outdoor fan motor and KHAIR0301AAA using electronically commutated (ECM) outdoor fan motor.

DESCRIPTION AND USAGE

This device is designed to switch the low ambient controller out of the outdoor fan circuit while unit is in heating and defrost mode.

Kit Contents	KHAIR0201AAA	KHAIR0301AAA
Isolation Relay	X	X
Orange Wire	X	X
Black Wire #1	X	X
Black Wire #2	X	X
Black Wire #3		X
violet Wire	X	X
YEL/BLUE Wire		X
Screws (4)	X	X
Connector	X	X
Installation Instructions	X	X

Use only the kit components described in this installation procedure.

CAUTION

ELECTRICAL OPERATION HAZARD

Failure to follow this caution may result in equipment damage or improper operation. Care must be exercised when drilling pilot holes to avoid damage to wires and other existing electrical components.

INSTALLATION

Wiring Kit KHAIR0201AAA (Low Ambient Pressure Switch)

NOTE: Installation instructions apply to single split system, single and two stage heat pumps kit number KHAIR0201AAA using permanent split capacitor (PSC) outdoor fan motor only.

See Fig. 1 for wiring of a defrost board and control board.

1. Disconnect power to the unit.
2. Mount isolation relay in control box with provided screws. If necessary, mark and drill 1/8" diameter pilot holes.
3. Remove black lead of outdoor fan motor connected to defrost board OF2 or control board ODF.
4. Install piggyback female terminal on provided violet wire harness to Tab 1 of relay.
Connect non -piggyback female termination of same violet wire to one side of provided connector.
Connect the female termination of violet (or yellow) lead of low ambient pressure switch to the other side of the provided connector (refer to KSALA0301410/KSALA0201R22 Installation Instructions for proper installation of pressure switch to refrigeration system). Connect the female termination of the black fan motor lead to the male piggyback terminal located at tab 1 of relay.

NOTE: To ensure electrical isolation and strain relief, it is recommended to wrap connector with UL approved electrical tape overlapping the wires on each side by a minimum of 1".

5. Install piggyback female terminal on provided black wire harness to Tab 2 of relay.
Connect non -piggyback female termination to same black wire to OF2 on defrost board or ODF on control board.
Connect the female termination of blue lead of low -ambient pressure switch to male piggyback terminal located at Tab 2 of relay (refer to KSALA0301410 / KSALA0201R22/ Installation Instructions for proper installation of pressure switch to refrigeration system).
6. Install provided orange wire to one side of the relay coil. Connect the other side to the O wire coming from defrost board.
7. Install provided black wire to opposite side of the relay coil. Connect the other side to the C wire coming from defrost board.
8. Reinstall control box cover and reconnect power to unit.

Wiring Kit KHAIR0301AAA (Low Ambient Pressure Switch)

NOTE: Installation instructions apply to single split system, single and two stage heat pumps kit number KHAIR0301AAA electronically communicated (ECM) outdoor fan motor only.

See Fig. 2.

1. Disconnect power to the unit.
2. Mount isolation relay in control box with provided screws. If necessary, mark and drill 1/8" diameter pilot holes.
3. Remove Yellow/Blue lead of outdoor fan motor connected to defrost board OF2 or control board ODF .
4. Install piggyback female terminal on provided violet wire harness to Tab 1 of relay.
Connect non -piggyback female termination of same violet wire to one side of provided connector.
Connect the female termination of violet (or yellow) lead of low ambient pressure switch to the other side of the provided connector (refer to KSALA1001454 Installation Instructions for proper installation of pressure switch to refrigeration system). Connect the male termination of the provided yellow/blue wire to the female termination of the yellow/blue fan wire.
Connect female termination of the provided yellow/blue wire to the male piggyback terminal located at tab 1 of relay.

NOTE: To ensure electrical isolation and strain relief, it is recommended to wrap connector with UL approved electrical tape overlapping the wires on each side by a minimum of 1".

5. Using the provided black wire with the 3/16" female connector, install the piggyback female terminal to Tab 2 of the relay.
Connect non -piggyback female termination to same black wire to OF2 on defrost board or ODF on control board.
Connect the female termination of blue lead of low ambient pressure switch to male piggyback terminal located at Tab 2 of relay (refer to KSALA1001454 Installation Instructions for proper installation of pressure switch to refrigeration system).
6. Install provided orange wire to one side of the relay coil. Connect the other side to the O wire coming from defrost board.
7. Install provided black wire to opposite side of the relay coil. Connect the other side to the C wire coming from defrost board.
8. Re-install control box cover and reconnect power to unit.

WIRING (MOTOR MASTER CONTROL)

NOTE: Installation instructions applies to single split system single and two stage heat pumps kit number KHAIR0201AAA using permanent split capacitor (PSC) outdoor fan motor only.

See Fig. 3 and Fig. 4

1. Disconnect power to unit.
2. Mount isolation relay in control box with provided screws. If necessary mark and drill 1/8" diameter pilot holes.
3. Remove black lead of outdoor fan motor from defrost board terminal OF2.
4. Install piggyback female terminal on provided violet wire harness to Tab 2 of relay.
5. Connect non -piggyback female termination of same violet wire to one side of provided (male x male) connector.
6. Connect the female termination of the black fan motor lead to the open end of the (male x male) connector.
7. Connect one of the motor master control leads to the piggyback terminal located on terminal 2 of the relay.
8. Connect the other motor master lead to terminal 3 on the relay.
9. Install piggyback female terminal on provided black wire harness to Tab 1 of relay.
10. Connect non -piggyback female termination of same black wire to OF2 on defrost board or OFR on 460v units.
11. Install provided orange wire to one side of the relay coil. Connect the other side to the O wire coming from defrost board.
12. Install provided black wire to opposite side of the relay coil. Connect the other side to the C wire coming from the defrost board.
13. Re-install control box cover and reconnect power to unit.

