KSACY0101AAA
KSACY0201AAA

CYCLE PROTECTOR KIT

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 CO_2 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.

⚠ 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.

Use only the kit components described in this installation procedure.

INTRODUCTION

This instruction covers installation of the Cycle Protector on split-system air conditioners and heat pumps. KSACY0101AAA is for R-410A product and KSACY0201AAA is for R-410A and R-454B product.

The cycle protector is designed to prevent compressor short cycling. This control provides an approximate 5-minute delay after power to the compressor has been interrupted for any reason, including power outage, protector control trip, thermostat jiggling, or normal cycling.

NOTE: Communicating capable units already have cycle protection as part of software and do not require this kit. This is true if set up with communicating system control or non-communicating standard thermostat.

NOTE: All non-communicating HPs utilizing R-454B refrigerant already have cycle protection as part of software on defrost board and do not require this kit.

Kit Contents	For R-410A Product	For R-454B Product
	KSACY0101AAA	KSACY0201AAA
Installation Instructions	X	X
Cycle Protector	X	X
Screw	X	X
Black Wire #1	X	X
Violet Wire (Air conditioners with PSC OD fan motor)	X	X
Violet Wire (Air conditioners with ECM OD fan motor)		X
Wire Label (Air Conditioners)	X	X
Yellow Wire (Heat Pump)	X	X
Wire Label (Heat Pump)	X	X
Wire Label (Legacy Heat Pump)	X	X
Black Wire #2		X
Wire Assy, Adapter		X

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.

INSTALLATION

Step 1 – Air Conditioning Applications

Proceed as follows to install the Cycle Protector control and to make the electrical connections.

1. Install Cycle Protector in control box using screw provided in kit and screw removed from control box.
2. Locate contactor, determine two contactor coil terminals, and disconnect lead that is Y leg of 24-volt circuit (lead may be routed through high- and/or low-pressure, and/or discharge-temperature switches, if used).
   – For units using R-410A refrigerant, route this lead to Cycle Protector and connect to terminal T1.
   – For unit using R-454B refrigerant, connect 1/8" tap from provided Blu/Yel wire to Y leg and connect the other end to Cycle Protector terminal T1
3. Connect violet wire from kit to vacant contactor coil terminal, route wire to Cycle Protector, and connect to terminal T2.
   – For units using R-410A refrigerant, use violet wire #1 with a 1/4" female connector on both ends.
   – For units using R-454B refrigerant, use violet wire #2 with a 1/8" female connector on one end and 1/4" female connector on the other end.
4. Remove black wire from kit.
   – For units using R-410A refrigerant, connect 1/4" female connector to contactor of other coil terminal, route other 1/4" female end to Cycle Protector, and connect to terminal T3.
   – For units using R-454B refrigerant, connect 1/8" female connector to contactor of other coil terminal, route other 1/4" female end to Cycle Protector, and connect to terminal T3.
5. Attach air conditioner wire label (provided in kit) next to unit wiring label.

Step 2 – Heat Pump Applications

Proceed as follows to install the Cycle Protector and to make the electrical connections.

1. Install Cycle Protector in control box using screw provided in kit.
2. Disconnect lead that is connected to Y at defrost board. Route this lead to Cycle Protector and connect to terminal T2.
3. Remove black wire from kit, connect to defrost board terminal C, route other end to Cycle Protector and connect to terminal T3.
4. Connect yellow wire from kit to Y on defrost board, route wire to Cycle Protector, and connect to terminal T1.
5. Attach heat pump wiring label (provided with kit) next to unit wiring label.

Step 3 – System Start-Up

After all electrical connections have been completed, proceed as follows to check system operation.

1. Check all electrical connections (both factory and field) to ensure they are properly completed and tight.
2. Restore power to unit and set room thermostat to start cooling cycle.
3. Observe that compressor, fan motor, and blower motor are running, and that unit is cooling conditioned space. Allow unit to continue operating and continue with next item.
4. With room thermostat "calling for cooling," interrupt electrical power to unit by moving thermostat switch to OFF position and then back to ON position.
5. Observe that compressor does not restart for approximately 5 minutes.
6. Replace all access doors. Unit is now ready for normal operation.

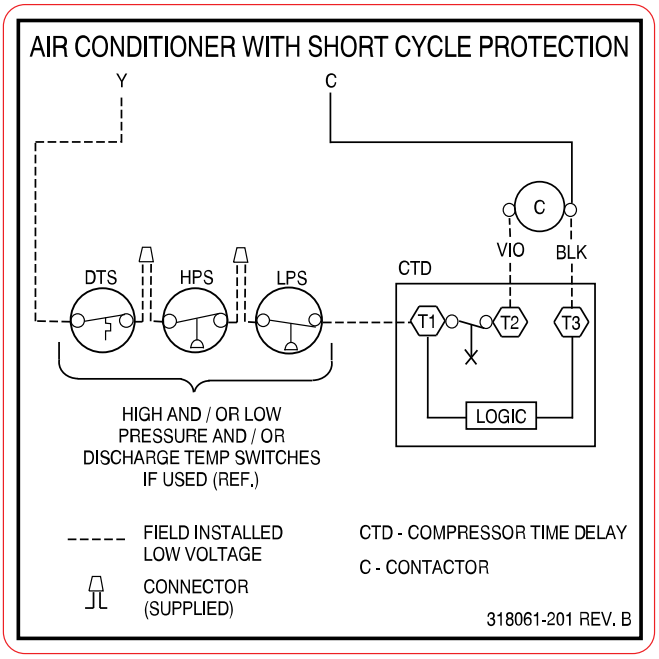


Fig. 1 – Field 24-volt Connections for Air Conditioning

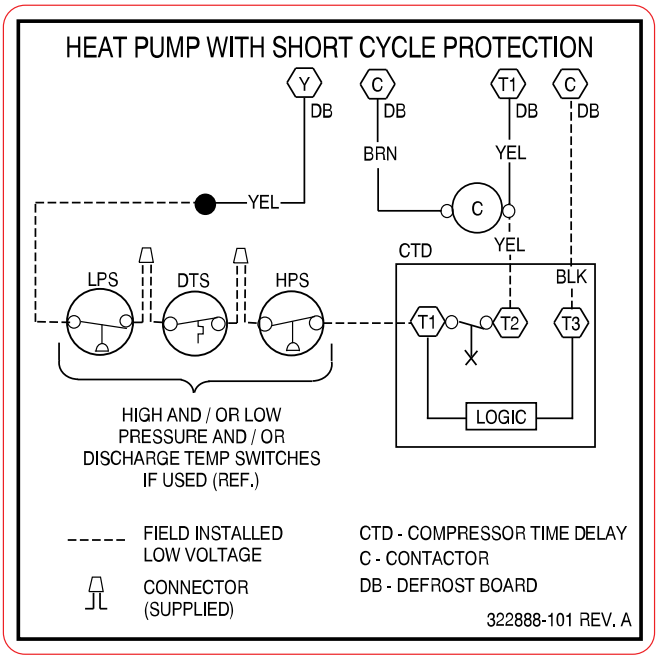


Fig. 2 – Field 24-volt Connections for Heat Pumps

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