

# INSTALLATION INSTRUCTIONS

## Cycle Protector

### NASA001AC

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

#### **Safety Considerations:**

Installing and servicing of air conditioning equipment can be hazardous due to system pressure 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 and on tags and labels attached to the unit.

Follow all safety codes. Wear safety glasses and work gloves. Use a quenching cloth for brazing operations. Have a fire extinguisher available.

### **Safety Labeling and Signal Words**

#### **DANGER, WARNING, CAUTION, and NOTE**

The signal words **DANGER**, **WARNING**, **CAUTION**, and **NOTE** are used to identify levels of hazard seriousness. The signal word **DANGER** is only used on product labels to signify an immediate hazard. The signal words **WARNING**, **CAUTION**, and **NOTE** will be used on product labels and throughout this manual and other manuals that may apply to the product.

**DANGER** – Immediate hazards which **will** result in severe personal injury or death.

**WARNING** – Hazards or unsafe practices which **could** result in severe personal injury or death.

**CAUTION** – Hazards or unsafe practices which **may** result in minor personal injury or product or property damage.

**NOTE** – Used to highlight suggestions which **will** result in enhanced installation, reliability, or operation.

#### **Signal Words in Manuals**

The signal word **WARNING** is used throughout this manual in the following manner:



The signal word **CAUTION** is used throughout this manual in the following manner:



#### **Signal Words on Product Labeling**

Signal words are used in combination with colors and/or pictures on product labels.

## **INTRODUCTION**

This instruction covers installation of the Cycle Protector, NASA001AC, on split-system air conditioners and heat pumps.

The Cycle Protector prevents compressor short cycling by providing a 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.

**ELECTRICAL SHOCK HAZARD**

**Failure to turn off electric power could result in personal injury or death.**

**Before installing or servicing system, turn off main power to the system. There may be more than one disconnect switch, including accessory heater(s).**

## DESCRIPTION AND USAGE

The Cycle Protector monitors the thermostat demand signal and only allows the demand signal to reach the contactor if there has been at least 5 minutes since the last time the compressor shut off.

Included in the kit are:

- Cycle Protector ----- 1
- Screws ----- 3
- Black wire ----- 1
- Violet wire (air conditioners) ----- 1
- Wire label (air conditioners) ----- 1
- Yellow wire (heat pumps) ----- 1
- Wire labels (heat pumps) ----- 2
- Installation Instructions ----- 1

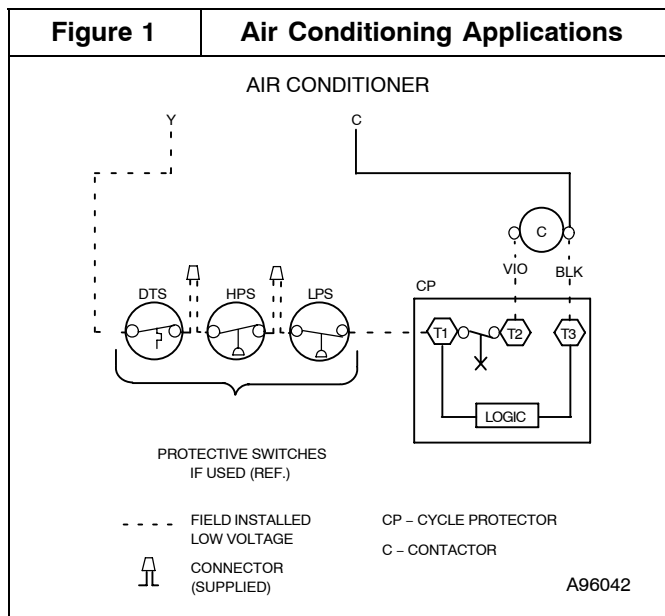
## INSTALLATION

### Air Conditioning Applications

Refer to Figure 1. Unit may or may not be equipped with protective controls shown on wiring diagrams.

1. Install cycle protector in control box using screws provided in kit.
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). Route this lead to cycle protector and connect to terminal T1.
3. Connect violet wire from kit to vacant contactor coil terminal, route wire to cycle protector, and connect to terminal T2.
4. Remove black wire from kit, connect to contactor coil other terminal, route other end to cycle protector, and connect to terminal T3.
5. Attach air conditioner wiring label (provided in kit) next to unit wiring label.

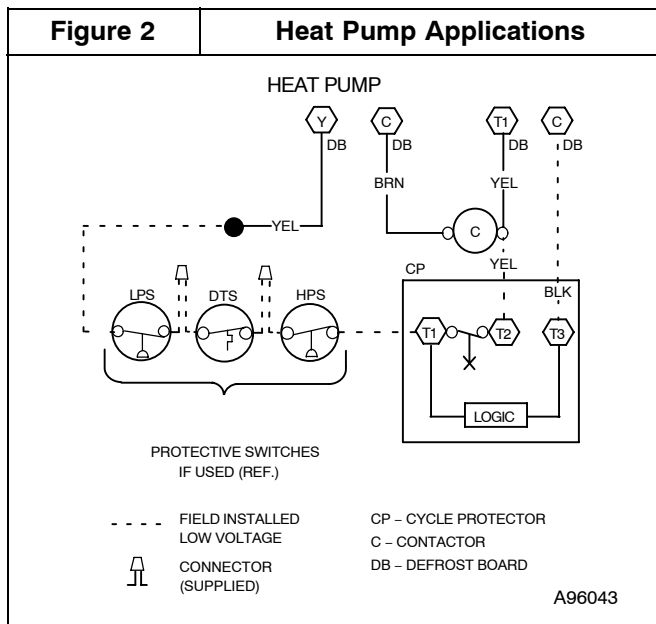
2. Locate yellow or blue wire leading from 24-volt safety control to contactor coil. Disconnect this lead at contactor coil. Route this lead to cycle protector and connect to terminal T1.
3. Using yellow wire from kit, connect between previously vacated contactor coil terminal and terminal T2.
4. Using black wire from kit, connect between 24-volt common (C) and cycle protector terminal T3.
5. Attach heat pump wiring label (provided in kit) next to unit wiring label.



### Heat Pump Applications

Refer to Figure 2. Unit may or may not be equipped with protective controls shown on wiring diagrams.

1. Install cycle protector in control box using screws provided in kit.



### System Start-up

1. Check all electrical connections (both factory and field) to ensure they are properly completed and tight.
2. Restore power to indoor and outdoor units 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. With unit operating, continue to next item.
4. Interrupt electrical power to unit by turning thermostat OFF and then back ON.
5. Observe that compressor and outdoor fan do not restart for approximately 5 minutes.
6. Replace all access doors. Unit is now ready for normal operation.