

# ACCESSORY KIT INSTALLATION INSTRUCTIONS

## DEMAND DEFROST CONTROL BOARD KIT MODEL S1-33109178000

FOR MODELS: AFFINITY, ECHELON, ACCLIMATE HEAT PUMP SERIES

### REQUIRED CONTROL SETUP

#### Jumper Settings

The jumper settings on the new control board must be set at the time of installation to insure proper system operation. It is easiest to set the jumpers before actual installation of the control board, but it is also possible after the control board is installed in the control box.

1. If hot heat pump configuration is desired, change HOT HEAT PUMP jumper to ON position.
2. If installation includes a fossil fuel furnace, change - FFUEL jumper to ON position.
3. Set low temperature cutout (LTCO) and balance point (BP) jumpers as desired.
4. Set defrost curve jumper, as shown below and in Table 1.
5. Set Y2 lock jumper as desired for two-stage heat pumps.
6. Set switch point jumpers desired for two-stage heat pumps.

#### Jumper Inputs

The control uses seven jumpers to determine how the heat pump should operate. These jumpers are shown in Figure 1. The jumpers that affect this heat pump are the following.

- LTCO – Low Temperature Cutout
- BP – Balance Point
- Defrost Curve
- FFUEL – Specifies fossil fuel furnace application
- HOT HEAT PUMP – Enables indoor airflow control for hot heat pump application
- Y2 LOCK – Determines compressor staging (for two-stage heat pumps Only)
- SWITCH POINT – Specifies liquid temperature at which second-stage compressor operation is forced (for two-stage heat pumps Only)

The control only reads the jumper inputs when the Y1, Y2, and W thermostat inputs are de-energized. If a jumper position is changed while any of these inputs are energized, the control will not act upon the jumper changes until all three of these thermostat calls are de-energized or power (24 VAC) to the control is cycled.

**IMPORTANT:** Changes to the jumper inputs do not take affect until Y1, Y2, and W thermostat signals are de-energized.

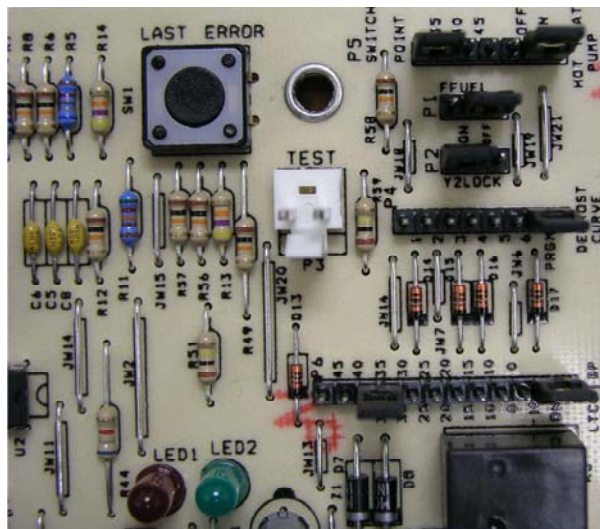


FIGURE 1: Jumper Inputs

#### Defrost Curves

The control uses a set of defrost curve parameters that are selected using the defrost curve selection jumper. The location of the defrost curve selection jumper is shown in Figure 1. Table 1 shows the jumper position that is appropriate for each heat pump model. Jumper positions 5, and 6 are not used and the control will not allow the compressor to operate in heat pump applications when the jumper is in any of these positions.

#### Defrost Curve Selection

The control will not energize the compressor if the defrost curve selection jumper is in a numbered position that is not described in Table 1 or if the defrost curve selection jumper is missing. The control will display the proper fault code when a defrost curve jumper error is present.

**IMPORTANT:** The control will lock out the compressor if the defrost curve selection jumper is not properly set.

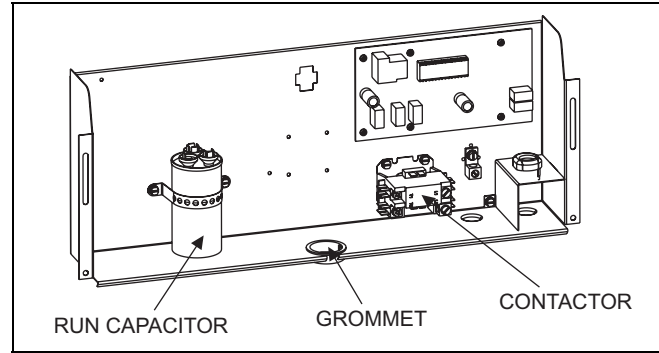
TABLE 1: Defrost Initiate Curves

Defrost Curve Selection Jumper Position	Heat Pump Tonnage
1	2 & 2.5 Ton
2	4 & 5 Ton
3	3 & 3.5 Ton
4	1.5 Ton

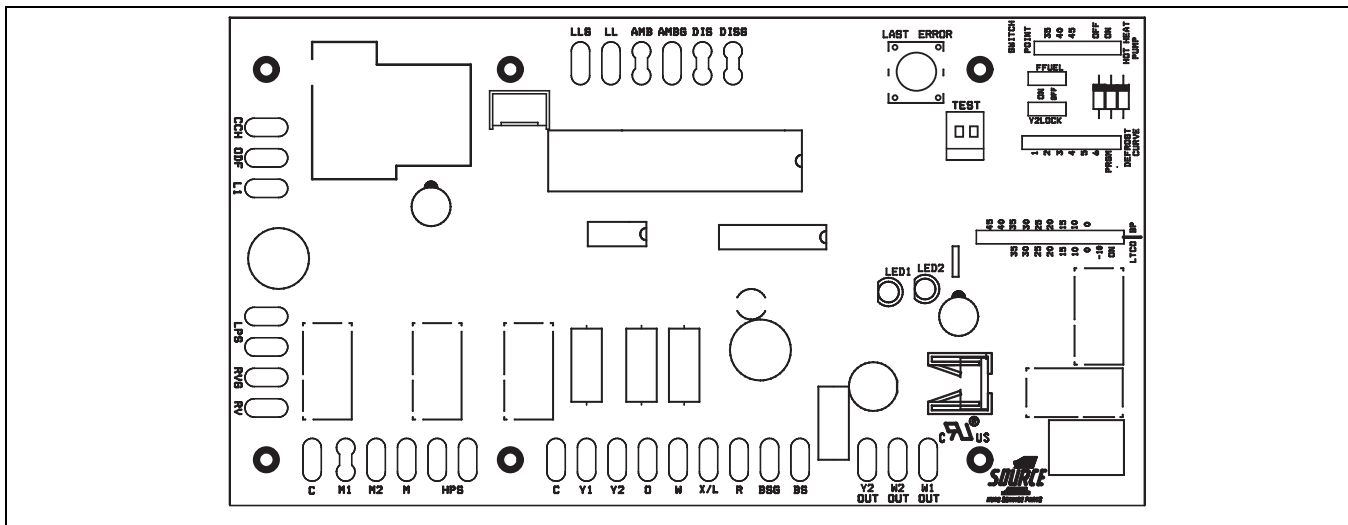
For more information on control operation refer to “Operation Instructions - Demand Defrost Control Board Kit 340512/031-09178-000” on upgnet.com.

## INSTALLATION

1. Disconnect power to the unit.
2. Remove control access panel.
3. Remove the old control board.
4. Locate the correct position of the control board, as shown in Figure 2.
5. Attach the control board to the control box with the existing screws, after appropriate jumpers are set.
6. Wire control board for specific model as shown in unit wiring diagrams.
7. Verify proper system functionality.
8. Upon completion of installation, verify that no fault codes are stored in memory. Clear the fault code memory if necessary, as described on fault code label.



**FIGURE 2:** Control Box



**FIGURE 3:** Demand Defrost Control Module