REPAIR PART INSTALLATION INSTRUCTIONS

CONTROL REPAIR KIT FOR (S1-37323869001)
MODELS H4TS024S06 THRU 060

GENERAL INFORMATION

This repair kit is a replacement for the TS control (part number 18386 / 031-01913-000) used in H4TS models. These instructions assume that the H4TS model has two contactors installed either from the factory or by the previous application of the TS AC repair kit part number S1-37323590500.

INSTALLATION PROCEDURE

1. Remove control from packaging and configure the control as follows.
   a. Specify the desired Y2 Lock functionality by changing the Y2 LOCK jumper position. If Y2 LOCK is in the ON position, the control will function as the original H4TS control and stay in second stage until the thermostat is satisfied. If Y2 LOCK is in the OFF position, the control will allow the unit to switch from second stage heating or cooling back to first stage heating or cooling according to the room thermostat call. No other jumper settings apply to the H4TS.
   b. The wire harnesses are factory installed to the new control according to Table 1.

TABLE 1: Control Wire Connections

Wire Color	New Control Terminal
Black	C (near M1)
White	M1
Brown	M2
Orange	CCH
Yellow	L1
Black	ODF
Black	LPS
Black	LPS
Yellow	HPS
Yellow	HPS
Black	C (near Y1)
Yellow	Y1
Blue	Y2
Red	R
Green	Y2 Out

2. Disconnect electrical power from unit.
3. Remove control panel access cover.
4. Disconnect thermostat wires.
5. Disconnect L1 and L2 power leads from power supply terminal block.
6. Cut wire ties as necessary to gain access to wire harnesses.
7. Disconnect the black outdoor fan lead from the power supply terminal block.
8. Remove the TS control from the upper mounting plate.
9. Disconnect the TS control wires from the contactors and run capacitor so they can be removed with the control. Cut wire ties as necessary to release these wires.
10. Remove the two blue Kickstart relay wires from T1 and T2 of contactor B.
11. Remove and discard the yellow wire connected to the HERM terminal of the dual run capacitor.
12. Disconnect the red and yellow compressor wires from the contactors.
13. Remove the contactors and connected wires and discard.
14. Remove upper mounting plate from control box.
15. Remove Kickstart relay and power supply terminal block from lower mounting plate.
16. Remove lower mounting plate from control box.
17. Remove dual run capacitor and mounting strap.
18. Remove Kickstart capacitor and mounting bracket.
19. The control box should now have all components removed from it.
20. Cover all holes metallic tape to prevent moisture from entering the control box.
21. Using the supplied template, drill holes shown in Table 2 and mount terminal block and capacitor support brackets to control panel.

TABLE 2: Component Holes

Component	Number of Holes	Hole Diameter
Kickstart Relay	1	1/8”
Capacitor support brackets (2)	1 each	1/8”
Capacitor strap	2	1/8”
Terminal block	2	5/32”
Contactors (2)	2 each	1/8”
Control	6	3/32”

22. Install Contactor B on the left with L1 and L2 toward the bottom and T1 and T2 toward the top.
23. Install contactor A on the right with the same orientation.
24. Connect red compressor wire to the T2 terminal of contactor B.
25. Connect yellow compressor wire to the T1 terminal of contactor B. Contactor wires should be as shown in Table 3.
26. Confirm that one orange wire from crankcase heater is connected to the L2 terminal of the terminal block.
27. Install the dual run and Kickstart start capacitors on the mounting brackets and secure using the provided capacitor strap.
28. Connect the capacitor wires as specified in Table 4.
29. Remove existing Kickstart relay and capacitor wiring harness and replace with new, longer harness according to Table 5.

TABLE 3: Contactor Wire Connections

Wire Color	Contactor A Connection Point	Contactor B Connection Point
Blue	Coil common	Coil common
Red	L1	L2
Yellow	L2	L1
Red	T2	T2
Yellow	T1	T1
Red (from compressor)	None	T2
Yellow (from compressor)	None	T1
Red (from L2 of power supply terminal block)	None	L2

TABLE 4: Capacitor Wiring

Wire Color	Connection Point	Connection Point
Purple	Capacitor – C	Connect to purple wire from outdoor fan motor run winding. Wires must be cut to length, stripped, and connected with wire nut.
Brown	Capacitor – FAN	Connect to brown wire from outdoor fan motor start winding. Wires must be cut to length, stripped, and connected with wire nut.
Yellow	Capacitor – HERM	Contactor A – L2
Purple	Capacitor – C	Contactor A – L1

TABLE 5: Kickstart Wiring

Wire Color	Connection Point	Connection Point
White	Kickstart Capacitor (either terminal)	Kickstart relay – Terminal 1
White	Kickstart Capacitor (either terminal)	Kickstart relay – Terminal 5
Blue	Contactor B – T2 terminal	Kickstart relay – Terminal 5
Blue	Contactor B – T1 terminal	Kickstart relay – Terminal 2

30. Install provided insulation quick connect terminals to unused terminals 1 and 2 of Kickstart relays to prevent electrical shorts between the terminals and the control panel access cover.
31. Attach Kickstart relay to control panel.
32. Mount the control board to the control panel and connect the wires as shown in Table 6. If necessary, cut wires to length and strip the insulation before making wire nut connections.

TABLE 6: Control Wiring

Wire Color	Control Terminal	Connection Point
Black	C (near M1)	Contactor A or B coil common (with blue wire connecting contactors A & B)
White	M1	Contactor A coil
Brown	M2	Contactor B coil
Orange	CCH	Crankcase heater wire (orange)
Yellow	L1	L1 terminal of terminal block
Black	ODF	Outdoor fan motor common wire (black)
Black	LPS	Low pressure switch wire (black)
Black	LPS	Low pressure switch wire (black)
Yellow	HPS	High pressure switch wire (yellow)
Yellow	HPS	High pressure switch wire (yellow)
Black	C (near Y1)	Thermostat wire in low voltage wiring compartment
Yellow	Y1	Thermostat wire in low voltage wiring compartment
Blue	Y2	Thermostat wire in low voltage wiring compartment
Red	R	Thermostat wire in low voltage wiring compartment
Green	Y2 Out	Thermostat wire in low voltage wiring compartment

33. Route and bundle wires neatly.
34. Replace the wiring diagram with the new diagram supplied with the repair kit.
35. Install the control fault code label on the inside of the control panel access cover.
36. Reapply power to indoor and outdoor unit.
37. Test operation of unit.
38. Verify that the control has no fault codes and system is operating properly.
39. When proper system operation is verified, depress the LAST ERROR button on the control for more than five seconds to clear any faults from memory. The control will flash both LED's three times when the memory is cleared. The control will flash both LED's twice when the LAST ERROR button is depressed and there are no faults stored in memory.
40. Install control panel access cover.

SYSTEM OPERATION

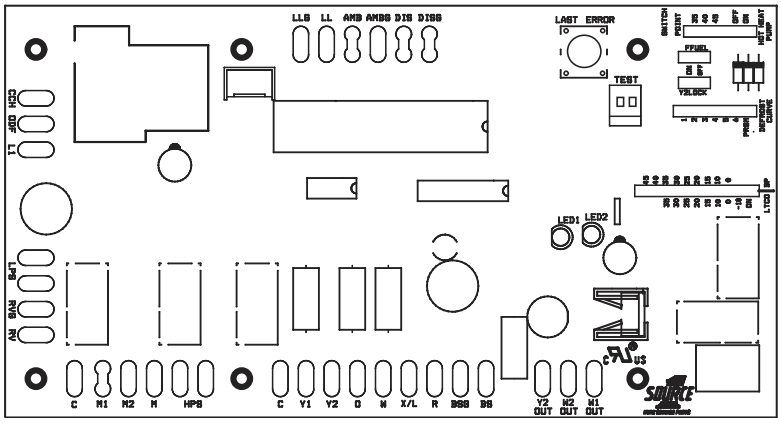

FIGURE 1: Control Module

GENERAL

This control is used in heat pump and air conditioner applications. Some references in this section may not be applicable to all units using this control.

ANTI-SHORT CYCLE DELAY

The control includes a five-minute anti-short cycle delay (ASCD) timer to prevent the compressor from short cycling after a power or thermostat signal interruption. The ASCD timer is applied when the control is first powered from the indoor unit thermostat and immediately following the completion of a compressor run cycle. The compressor and the outdoor fan will not operate during the five minutes that the timer is active.

The ASCD timer can be bypassed by connecting the TEST terminals for three seconds while the thermostat is calling for compressor operation (Y1 input signal energized).

CRANKCASE HEATER

The control energizes the crankcase heater terminal (CCH) whenever line voltage is applied to the control and the outdoor fan is not on. If the compressor is equipped with a crankcase heater, it will be energized from the CCH terminal of the control.

LOW VOLTAGE DETECTION

The control monitors the transformer secondary (24 VAC) voltage and provides low voltage protection for the unit and its components. In particular, the control prevents contactor chatter during low voltage conditions. If the voltage drops below approximately 19 VAC, the control will continue to energize any relays that are already energized but will not energize any additional relays until the voltage level increases. If the voltage drops below approximately 16 VAC, the control will immediately de-energize the relay outputs and will not energize any relays until the voltage level increases. The control will store and display the appropriate fault codes when low voltage conditions occur.

TEST INPUT

The control includes a TEST input connector that can be used for various testing functions during installation and service. The TEST input connector is shown in Figures 2 and 3. The following table summarizes the behavior of the control when the two TEST pins are connected. More detailed descriptions of the various functions are included in other sections of this document.

TABLE 7:TEST Input Functionality

Duration of connection (seconds)	Control behavior with no thermostat signals present	Control behavior with thermostat signals present
Less than 2	No response	No response
2-6	Display operational mode	Bypass ASCD. If Y1 is present and high-pressure switch is closed, contactors will be energized.
	Clear soft lockout	Clear soft lockout
	Clear hard lockout	Clear hard lockout
More than 6	Display operational mode. Energize X/L with active defrost curve flash code.	Initiate defrost cycle ignoring the liquid line and outdoor ambient temp. Energize X/L with active defrost curve flash code
Connection removed	Resume normal LED display	Terminate defrost as normal or until O signal is energized.
Connection not removed	Display operational mode. Energize X/L with active defrost curve flash code.	Continue defrost cycle and X/L flash code until TEST connection removed.

LED DIAGNOSTIC INDICATORS

The control includes two LED's that display various types of diagnostic information. LED1 is red and LED2 is green. The location of the LED's is shown in Figures 2 and 3. These LED's are used to display operational mode, status, and fault information.

OPERATIONAL MODE DETECTION

The control can be used in a variety of applications including heat pumps and air conditioners with modulating compressors. The control uses various inputs to determine the proper mode of operation.

It looks for the presence of a reversing valve connected to the RV and RVG terminals to determine if it should operate as a heat pump or an air conditioner. If the reversing valve is not connected, the control will not operate in the heat pump mode. The control senses the reversing valve loads and determines the operational mode each time power to the control is cycled.

The control also senses the connections that are made to the M, M1, and M2 terminals and determines the correct operational mode for the control. This is done each time power to the control is cycled.

OPERATIONAL MODE DISPLAY

The control will display its active operational mode using the onboard LED's when the TEST pins are connected while no thermostat signals are energized. See Table 8. The control will display the operational mode as long as the TEST pins are shorted and no thermostat signals are energized. When the TEST pin short is removed, the control will return to normal LED displays. In heat pump mode, the X/L output will be energized (with the number of flashes corresponding to the active defrost curve) while the operational mode is displayed. For example, if defrost curve 2 is active, the X/L output will be energized with two flashes while the operational mode is being displayed on the LED's.

TABLE 8: Operational Mode Display

Operational Mode	LED1 (Red)	LED2 (Green)
Heat Pump		ON
Air Conditioner		OFF
Single-Stage Compressor	1	
Reciprocating Two-Stage Compressor	2	
Scroll Two-Stage Compressor	3	

STATUS MODE DISPLAY

The control also provides status codes using the LED's. Status codes indicate the state of operation of the unit but do not represent a fault. Table 9 describes the LED displays during status codes. Status codes will not be displayed when a fault code is present.

During the following conditions, the control will not energize the X/L output.

TABLE 9: Status Code Display

Description	LED1 (Red)	LED2 (Green)
No power to control	OFF	OFF
First-stage compressor operation – not applicable to single stage compressor	OFF	ON
Second-stage or full capacity compressor operation	ON	ON
Control normal operation – no call for compressor	OFF	2 sec ON 2 sec OFF
Control normal operation – call for compressor and ASCD timer (5 min.) is active	OFF	Rapid Flash
No fault codes in memory – Initiated by LAST ERROR push button	2	2
Fault code memory cleared – Initiated by LAST ERROR push button	3	3

FAULT CODE DISPLAY

X/L Output

The X/L terminal of the control is typically connected to the X/L input of the room thermostat for heat pumps. The thermostat uses this signal to notify the homeowner of a problem with the heat pump using an LED or LCD display. When the control energizes the X/L terminal, the thermostat displays the flash code so the homeowner can see it.

The control informs the homeowner of the type of condition that is present using flash codes. Table 10 shows the condition categories and the corresponding X/L flash codes.

The control will continue to energize the X/L output for fault codes having an X/L code of 4 flashes even after the thermostat calls are removed. The control does this to notify the installer or homeowner that a significant problem with the wiring or system configuration is present and needs to be corrected.

The control will continue to energize the X/L output until the condition that caused the fault condition no longer exists.

TABLE 10: X/L Output Categories

Condition Category	X/L
Soft Lockout – Reset with interruption of thermostat call following correction of fault condition	2 flashes
Hard Lockout – Reset by cycling power to system	3 flashes
Wiring, sensor or control setting related error	4 flashes

LED Display

The control will display any fault code that is currently active using the LED's. The control will display the fault code, pause two seconds, and display the fault again. The control will continue the fault code display until the condition that caused the fault code no longer exists. If multiple fault codes are present at the same time, the control will display only the most recent fault. The other active errors may be accessed from memory using the LAST ERROR pushbutton.

Operational Fault Codes

Table 11 shows the operational faults that the control can detect. The control displays this type of error by flashing LED1 (Red) only. LED1 (Green) is not energized. These faults typically occur when the heat pump has been operating and a problem occurs.

TABLE 11: Operational Fault Codes

Description	LED1 (Red)	LED2 (Green)	X/L
Operational Faults			
Control Failure that still allows fault code output	ON	OFF	4 if possible
High-pressure switch fault (not in lockout yet)	1	OFF	OFF
High-pressure switch lockout (last mode of operation was heat pump)	2	OFF	2 (soft) 3 (hard)
High-pressure switch lockout (last mode of operation was defrost)	3	OFF	2 (soft) 3 (hard)
Low-pressure switch lockout	4	OFF	2 (soft) 3 (hard)
Low Voltage (< 19 VAC) preventing further relay outputs	5	OFF	OFF
Low Voltage (< 16 VAC) stopped current relay outputs	6	OFF	OFF
Pipe Freeze Protection Timer expiration	7	OFF	4

Sensor or Switch Fault Codes

Table 12 shows the faults that the control can detect when a problem is present with a sensor or switch. The control displays this type of error by energizing LED1 (Red) constantly and flashing LED2 (Green). These faults typically occur when the unit has been operating and a problem occurs with a sensor or its wiring. These faults could also occur during installation as the heat pump is configured.

TABLE 12: Sensor or Switch Fault Codes

Description	LED1 (Red)	LED2 (Green)	X/L
Required Sensor or Switch Faults			
Outdoor ambient sensor failure (short)	ON	1	2 (soft)
Outdoor ambient sensor failure (open)	ON	2	2 (soft)
Liquid line sensor failure (short)	ON	3	2 (soft)
Liquid line sensor failure (open)	ON	4	2 (soft)
Optional Discharge Line Sensor Faults			
High discharge line temperature	ON	5	2 (soft) 3 (hard)
Low discharge line temperature	ON	6	2 (soft) 3 (hard)
Discharge line sensor failure (short)	ON	7	2 (soft)
Optional Bonnet Sensor Faults			
Bonnet sensor failure (short)	ON	8	4
Fossil Fuel Mode setting error (FFUEL jumper in OFF position but bonnet sensor present)	ON	9	4

Wiring Related Fault Codes

Table 13 shows the faults that the control can detect when a problem is present with the system wiring or jumper configurations. The control displays this type of error by flashing LED1 (Red) and energizing LED2 (Green) constantly. These faults typically occur when the heat pump is first installed or when a system component such as the room thermostat or indoor unit is replaced or rewired.

TABLE 13: Wiring Related Fault Codes

Description	LED1 (Red)	LED2 (Green)	X/L
Wiring Related Faults			
Compressor Contactor Miswire	1	ON	4
Y2 present without Y1	2	ON	4
Y1 and W present without Y2 in two stage mode	3	ON	4
O signal received in AC mode	4	ON	4
W signal received in AC mode	5	ON	4
W and O signal received in AC mode	6	ON	4
W and O signal received in HP mode	7	ON	4
Defrost Curve Jumper Error (Invalid jumper setting preventing compressor operation)	8	ON	4

FAULT CODE MEMORY

Displaying Stored Fault Codes

The control will store up to five fault codes in memory. If more than five faults occur, the five most recent fault codes will remain in memory. The stored faults can be displayed by depressing the LAST ERROR push button for one to five seconds while no thermostat inputs to the control are energized. See Figures 2 and 3 for the location of the push button. Since some room thermostats energize the O signal even when not calling for compressor operation, turn the room thermostat to the SYSTEM OFF setting when displaying fault codes.

When the LAST ERROR push button is depressed and released, the control will display the stored fault codes beginning with the most recent. The control will display the most recent fault code, pause two seconds, and display the next fault code. The control will display the stored error codes and then return to the normal LED status display mode. The stored fault codes can be displayed again by depressing the push button again. When the control displays the fault codes with the onboard LED's, it will also energize the X/L output with the corresponding flash code. The X/L output signal can be observed at the room thermostat or at the control using a 24VAC LED test device connected to the X/L terminal.

If the control has no fault codes stored in memory, it will flash both LED's twice simultaneously. If a thermostat signal is energized while the control is displaying the stored error codes, the control will stop displaying the stored error codes and resume normal operation.

Clearing Fault Code Memory

Once the stored fault codes have been displayed and recorded, the installer should clear the stored fault codes from the control's memory. This practice will enable better troubleshooting and diagnosis of system problems. If the stored fault codes are not cleared after the cause of the problem has been resolved, a service technician doing a later service call may not know that the fault codes in the memory were caused by a problem that has already been fixed. The technician may waste time trying to fix a condition that no longer exists. Therefore, it is very important to always clear the fault code memory after the unit is installed and running properly following a service call.

IMPORTANT - Always clear the fault code memory after resolving the condition that caused the fault code.

To clear the fault code memory, depress the LAST ERROR push button for longer than 5 seconds. The control will flash both LED's three times to indicate that the memory has been cleared. To confirm that the memory has been cleared, depress the LAST ERROR push button for one to five seconds. The control will flash both LED's twice to indicate that no faults are stored in memory.

LOCKOUT MODES

Soft Lockout

The control will cause a soft lockout during the following conditions. Detailed descriptions of the conditions required for the control to enter the soft lockout mode are contained in other sections of this document.

1. High-pressure switch
   a. Two openings within six hours
2. Low-pressure switch
   a. One opening of the switch for more than five seconds except under certain conditions.
3. High discharge temperature (with optional discharge sensor)
   a. Temperature reading exceeds 263°F
4. Low discharge temperature (with optional discharge sensor)
   a. Temperature reading does not reach 90°F following timer expiration under certain conditions.

During the soft lockout mode, the control will do the following.

1. De-energize the compressor
2. If in heating mode, the control will energize auxiliary heat as if the outdoor ambient temperature was below the LTCO setting.
3. Energize the LED and X/L outputs with the appropriate flash codes
4. Store the appropriate fault code in memory.

The control will reset the soft lockout condition when any of the following occur following removal of the fault condition.

1. Power is cycled to the R or Y1 inputs of the control. This will cause the soft lockout condition to be reset when the thermostat is satisfied or when the thermostat is set to SYSTEM OFF and back to HEAT or COOL mode.
2. The TEST terminals are shorted for more than two seconds.

When the soft lockout condition is reset, the control will stop displaying the fault code and will respond to thermostat inputs normally.

Hard Lockout

If four soft lockouts occur within a twelve-hour period, the control shall cause a hard lockout condition. These soft lockouts can be caused by the same or different conditions. The control will function in the same way during soft and hard lockout conditions. The difference is in the requirements for resetting the lockout condition. The control will reset the hard lockout condition when any of the following occur following removal of the fault condition.

1. Power is removed from the R input of the control.
2. The TEST terminals are shorted for more than two seconds.

A hard lockout condition will not be reset when the thermostat is satisfied or when the thermostat is set to SYSTEM OFF and back to HEAT or COOL mode. Power (24 VAC) to the control must be removed and reapplied.

When the hard lockout condition is reset, the control will de-energize the LED and X/L outputs and respond to thermostat inputs normally.

Wiring or Setting Related Lockouts

The control will not operate the compressor when the following faults occur. These faults can be reset using the same methods used to reset a soft lockout. However, two occurrences of these faults will not cause a hard lockout condition.

1. Presence of Y2 thermostat signal without Y1.
2. Shorted discharge sensor input
3. Shorted bonnet sensor
4. Shorted or open liquid line or outdoor ambient sensor
5. Defrost curve jumper error

If a compressor wiring error is detected, the control will not operate the compressor. Once the compressor wiring error has been detected, power (24 VAC) must be cycled to the control for the control to sense the wiring change and clear the lockout condition.

COOLING OPERATION

First-Stage Cooling Operation

During first-stage cooling operation, the control will receive thermostat signals at the Y1 terminal. The control will energize the M1 compressor output terminal. This signal energizes the coil of compressor contactor A causing the compressor to run in first (low) stage. The control also closes the outdoor fan relay delivering power to the ODF terminal causing the outdoor fan to operate.

Second Stage Cooling Operation

During second-stage cooling operation, the control will receive thermostat signals from Y1 and Y2 inputs. The control will energize the M2 compressor output terminal. The M2 signal energizes compressor contactor B causing the compressor to run in second (high) stage. During two-stage cooling operation the control also closes the ODF relay causing the outdoor fan to operate. Additionally, the Y2 OUT terminal is energized with 24VAC. This signal can be used to signal the indoor unit to deliver high air flow.

Two-Stage Cooling Anticipation Mode

The second-stage anticipation mode applies only to cooling operation. It does not apply to heating operation.

The purpose of this mode is to allow the unit to bypass first stage operation under very hot conditions when the unit will most likely require second stage operation anyway.

The factory setting for second-stage cooling anticipation mode is OFF.

If the control receives two consecutive calls for second-stage cooling (Y1+Y2), it shall force second stage compressor operation with the next call for first stage cooling (Y1). The control shall continue to force second stage cooling operation with thermostat calls for first stage cooling until one of the following conditions occurs.

- A thermostat call for first stage cooling (Y1) that has duration of less than 10 minutes.
- Recycling 24VAC to the control
- Shorting the TEST input pins.

If the Y2 LOCK jumper is in the OFF position, the control will not implement second-stage anticipation mode. This results in second-stage operation only when the room thermostat calls for second-stage cooling (Y1 + Y2).

If the jumper is removed, the control will behave as if the jumper is in the OFF position.

JUMPER INPUTS

The control uses seven jumpers to determine how the unit should operate. These jumpers are shown below.

- 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
- SWITCH POINT – Specifies liquid temperature at which second-stage compressor operation is forced.

Only the Y2 LOCK jumper affects the operation of the air conditioner. The other jumpers apply only to heat pumps.

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.

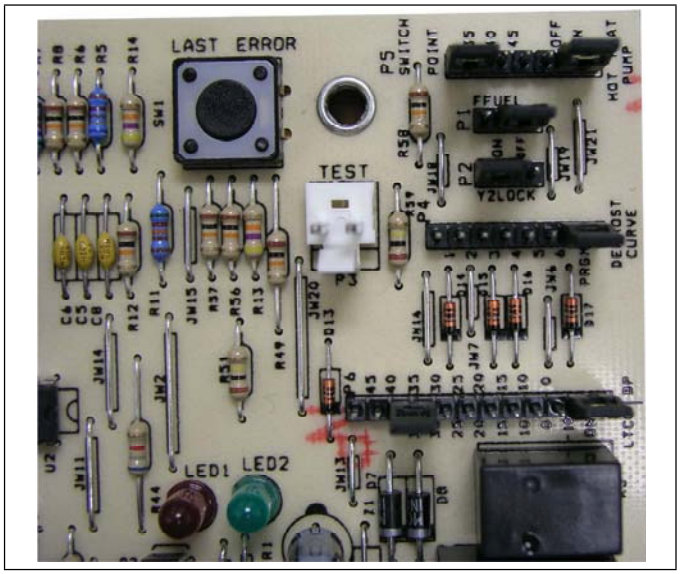

FIGURE 2: Jumper Inputs

HIGH-PRESSURE SWITCH FAULT

The unit is equipped with a high-pressure switch that is connected to the control at the HPS terminals. If the high-pressure switch opens for more than 40 milliseconds, the control will de-energize the compressor and store and display the appropriate fault code. If the pressure switch closes and a thermostat call for compressor operation is present, the control will apply the five-minute anti-short cycle delay timer and start the compressor when the timer expires.

When the compressor is started following a high-pressure switch fault, the control will start a six-hour timer based on accumulated compressor run time. If the control senses another opening of the high-pressure switch before the timer expires, it will cause a soft lockout condition. The second opening of the high-pressure switch must be greater than 160 milliseconds for the lockout to occur. If the second opening is between 40 and 160 milliseconds, the control will de-energize the compressor but not cause a soft lockout condition. If the control does not sense a second high-pressure switch opening before the six-hour timer expires, the timer and counter will be reset.

LOW-PRESSURE SWITCH

If the unit is equipped with a low-pressure switch, it is connected to the control at the LPS terminals. If the low-pressure switch opens for more than five seconds, the control will cause a soft lockout condition and display the appropriate fault codes. However, the control will ignore the low pressure switch input and not cause a soft lockout condition if it opens during the following conditions.

- First two minutes of compressor operation
- TEST input shorted with Y1 input energized

INDICATIONS OF PROPER OPERATION

Cooling

Cooling operation is the same as any conventional air conditioning unit.

1. The outdoor fan should be running, with warm air being discharged from the top of the unit.
2. The indoor blower (furnace or air handler) will be operating, discharging cool air from the ducts. Coils or other parts in the air circuit should be cleaned as often as necessary to keep the unit clean. Use a brush, vacuum cleaner attachment, or other suitable means.
3. The vapor line at the outdoor unit will feel cool to the touch.
4. The liquid line at the outdoor unit will feel warm to the touch.

WIRING DIAGRAM

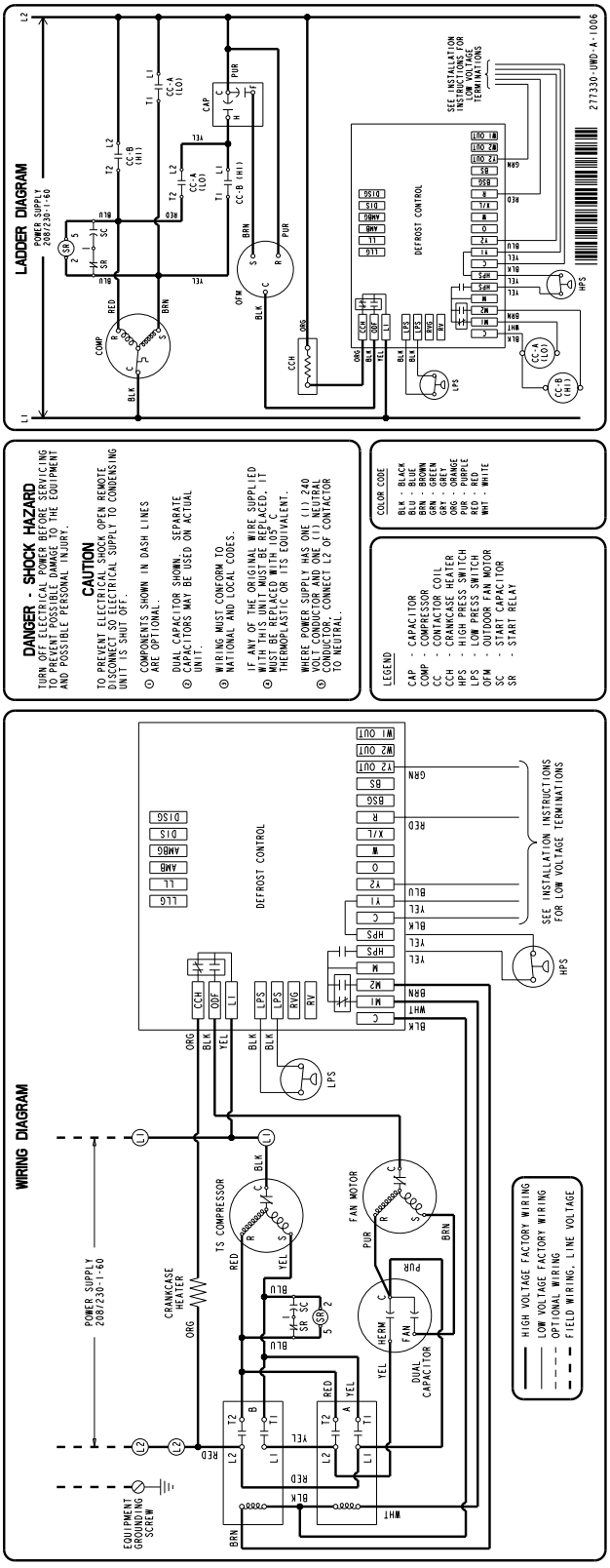

FIGURE 3: Wiring Diagram

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