



GAS UNITS KITS & ACCESSORIES

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Supersedes 05/2017

INTEGRATED CONTROL REPLACEMENT KIT

INSTALLATION INSTRUCTIONS FOR INTEGRATED CONTROL REPLACEMENT KIT (15T94) USED WITH ICOMFORT® ENABLED SL280, EL296 AND SL297 UNITS

WARNING

This conversion kit is to be installed by a licensed professional service technician (or equivalent) or other qualified agency in accordance with the manufacturer's instructions, all codes and requirements of the authority having jurisdiction.

Shipping and Packing List

Package 1 of 1 contains:

- 1 - Integrated control - 103130- (two-digit suffix) -

Application

Use replacement integrated control kit (15T94) with icomfort enabled SL280, EL296 and SL297 units. This control is designed for use with a 120V ignitor only. Do not install this integrated control in a furnace equipped with a 95V ignitor. Integrated control 103130-(two-digit suffix) can be used in communicating or non-communicating applications.

Installation

WARNING

Protect the control from direct contact with water. If the control has been in direct contact with water, replace the control.

WHEN SERVICING CONTROLS, label all wires prior to disconnecting. Wiring errors can cause improper and dangerous operation.

VERIFY proper operation after servicing.

WARNING

Disconnect power before servicing unit. Shut off main gas supplies to appliance until installation is complete.

ELECTROSTATIC DISCHARGE (ESD) Precautions and Procedures

CAUTION



Electrostatic discharge can affect electronic components. Take precautions to neutralize electrostatic charge by touching your hand and tools to metal prior to handling the control.

- 1 - Turn off electrical and gas supplies to the furnace.
- 2 - Remove the access panel and the control box cover. Label the wires before disconnecting.
- 3 - Disconnect the wires and harness connectors from the existing control.
- 4 - Remove control by unlatching the two mounting legs on the right side of the control and then rotate the control toward you.
- 5 - Replace with the provided control and reconnect the marked wires and harness connectors.
- 6 - Restore electrical and gas supplies to the furnace.

Non-Communicating System

For non-communicating applications set all DIP switch settings and on-board links exactly as the control being replaced.

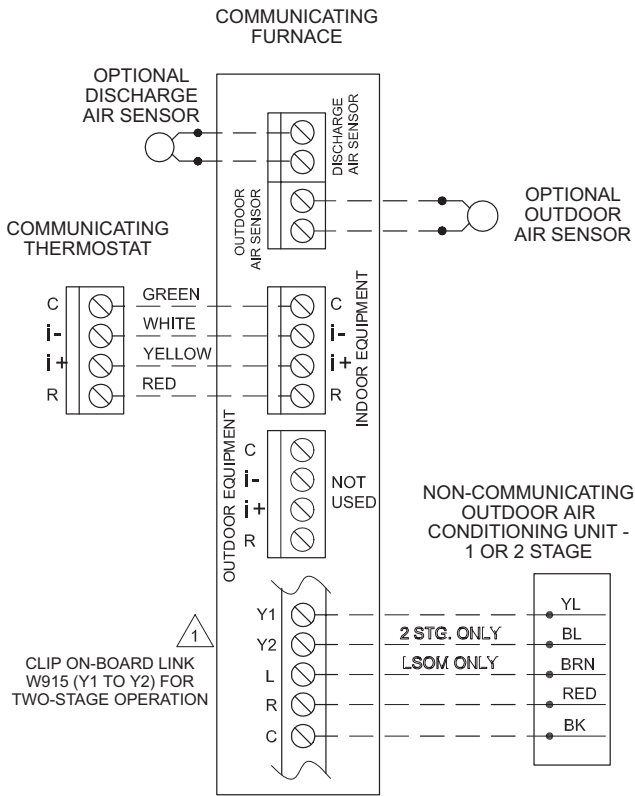
When replacing the control in a non-communicating system, it must be configured using the flow chart on page 4.

WARNING

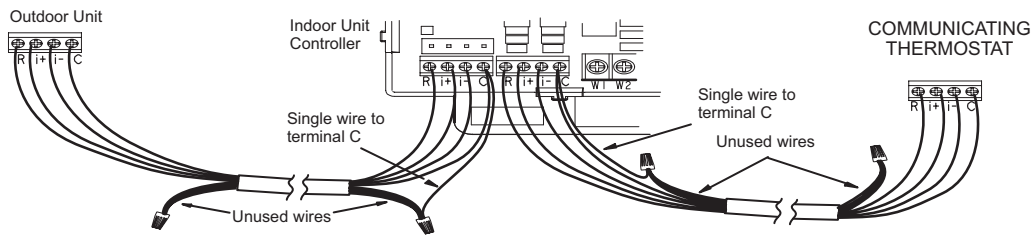
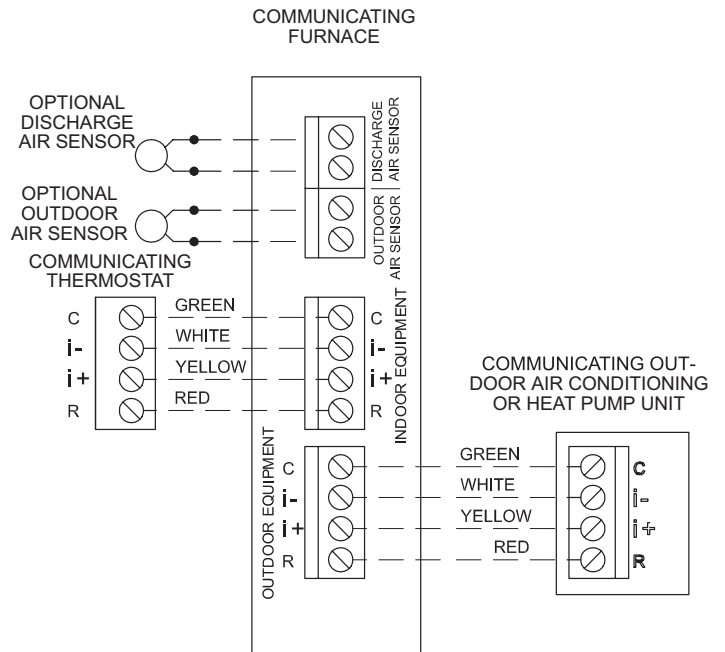
Ensure proper earth grounding of appliance. Ensure proper connection of line neutral and line hot wires.



Communicating Enabled Furnace with a Non-Communicating Outdoor Unit



Communicating Enabled Furnace with a Communicating Enabled Outdoor Unit



Communicating systems using the Communicating thermostat require four thermostat wires between the thermostat and the furnace/air handler control and four wires between the outdoor unit and the furnace/air handler control. When a thermostat cable with more than four wires is used, the extra wires must be properly connected to avoid electrical noise. The wires must not be left disconnected.

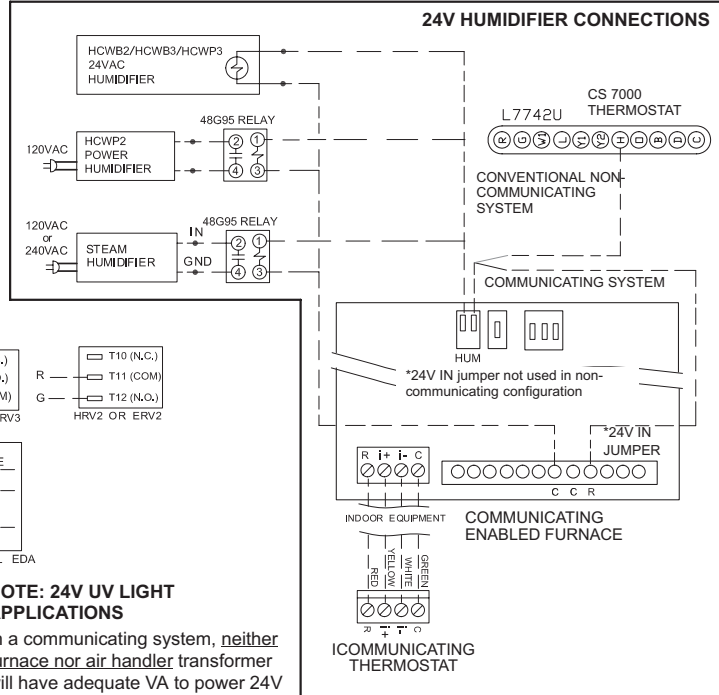
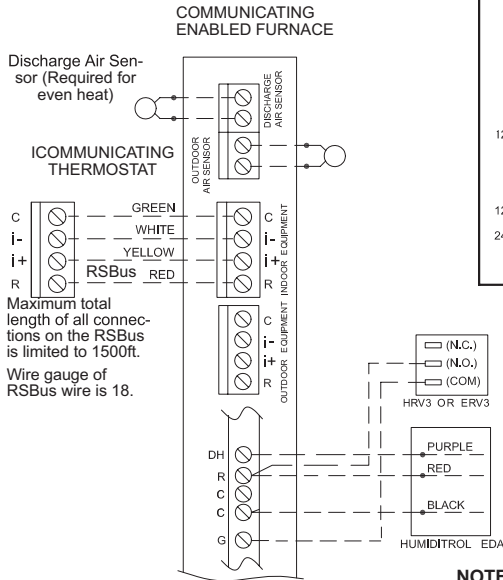
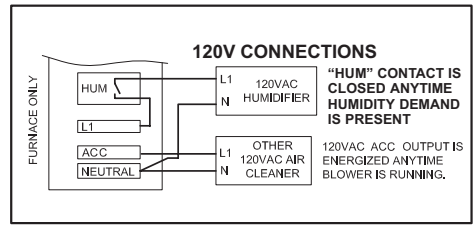
Use wire nuts to bundle the four unused wires at each end of the cable. A single wire should then be connected to the indoor unit end of the wire bundle and attached to the "C" terminals as shown above.

FIGURE 1

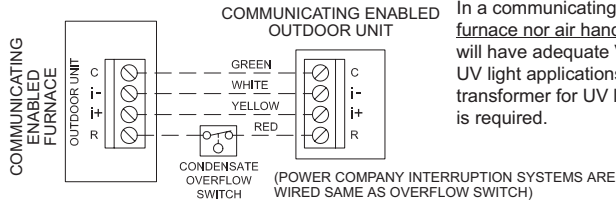
Optional Accessories for use with any Communicating System

NOTE: iCOMMUNICATING THERMOSTAT SENSES HUMIDITY & CONTROLS HUM CONTACTS TO CYCLE HUMIDIFIER BASED ON DEMAND. NO OTHER CONTROL OR HUMIDISTAT REQUIRED.

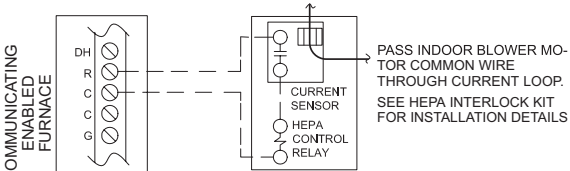
OPTIONAL OUTDOOR AIR SENSOR FOR USE WITH HUMIDIFIER (IF NOT ALREADY IN THE SYSTEM FOR OTHER FUNCTIONS. BUILT INTO ALL COMMUNICATING ENABLED OUTDOOR UNITS).



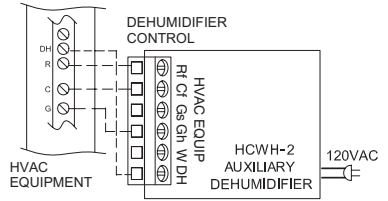
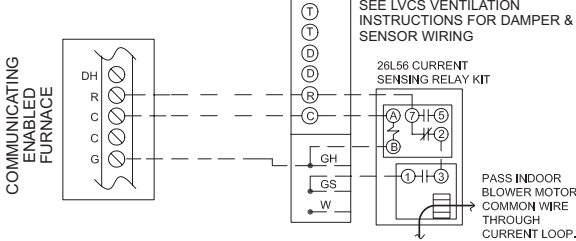
NOTE: 24V UV LIGHT APPLICATIONS
In a communicating system, neither furnace nor air handler transformer will have adequate VA to power 24V UV light applications. An additional transformer for UV light applications is required.



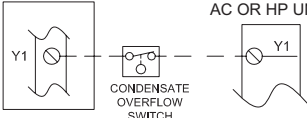
HEPA BYPASS FILTER X2680 HEPA INTERLOCK KIT



LVCS VENTILATION CONTROL SYSTEM

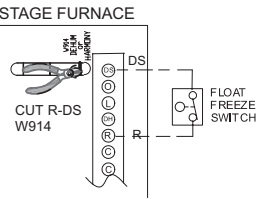


STANDARD 1 OR 2 STAGE AC OR HP UNIT



NON-COMMUNICATING SYSTEM WIRING

2 STAGE FURNACE



COMMUNICATING SYSTEM WIRING

FIGURE 2

Program Unit Capacity/Size Mode

Power-Up - Number displayed represents by integrated control unit size code (furnace model and capacity). If three horizontal bars are displayed followed by continuous E203, furnace control does not recognize **unit size code**. Configure per the following:




Furnace control in **IDLE** mode
No heating, cooling or indoor fan operation)

Yes

No


To enter **Program Unit Capacity/Size**: push and hold button next to 7-segment LED display until **solid "P"** symbol appears. Release button.



IMPORTANT: Field replacement controls may need to be manually configured to validate furnace unit size code.

Turn room thermostat to **OFF**

Solid **P** starts blinking on 7-Segment LED



Push and hold button. Integrated control will display unit size code number for each furnace model for three seconds.

CODE	FURNACE	CODE	FURNACE	CODE	FURNACE
A	SL280UH070V36A	H	SL280DF070V36A	A	SL280UH060NV36A
b	SL280UH090V36B	J	SL280DF090V48B	C	SL280UH080NV48B
C	SL280UH090V48B	L	SL280DF090V60C	d	SL280UH080NV60C
d	SL280UH090V60C	n	SL280DF110V60C	E	SL280UH100NV60C
E	SL280UH110V60C				
F	SL280UH135V60D				

When the correct unit size code is displayed, release button. Selected code will flash for 10-second period. During that period, press and hold push button for 5 seconds. Integrated control will store code in memory and will automatically exit **Program Unit Capacity/Size Mode** and reset. (If second period expires or push button is held less than five seconds, control will automatically exit **Program Capacity/Size Mode** and go into **IDLE** mode without storing unit size code. If this happens, programming function must be repeated).

EL296 UNITS

SL280 UNITS

SL297 UNITS

CODE	FURNACE	CODE	FURNACE	CODE	FURNACE
0	EL296UH045V36B	8	EL296DF0450V36A	0	SL297UH040NV36B
1	EL296UH070V36B	9	EL296DF070V48B	1	SL297UH060NV36B
2	EL296UH090V36B	11	EL296DF090V60C	3	SL297UH080NV48C
3	EL296UH09048C	U	EL296DF110V60C	4	SL297UH080NV60C
4	EL296UH090V60C				
5	EL296UH110V48C				
6	EL296UH110V60C				
7	EL296UH135V60D				

Verify that the selected unit size code is correct and stored in non-volatile memory by cycling the 24 volt power to the furnace control. (At 24 volt power-up of the furnace control, the 7-segment LED will display a unit size code. If three horizontal bars display, board does not recognize unit size code. Programming function must be repeated)

FINISHED

FIGURE 3

SL280UHV Schematic Wiring Diagram

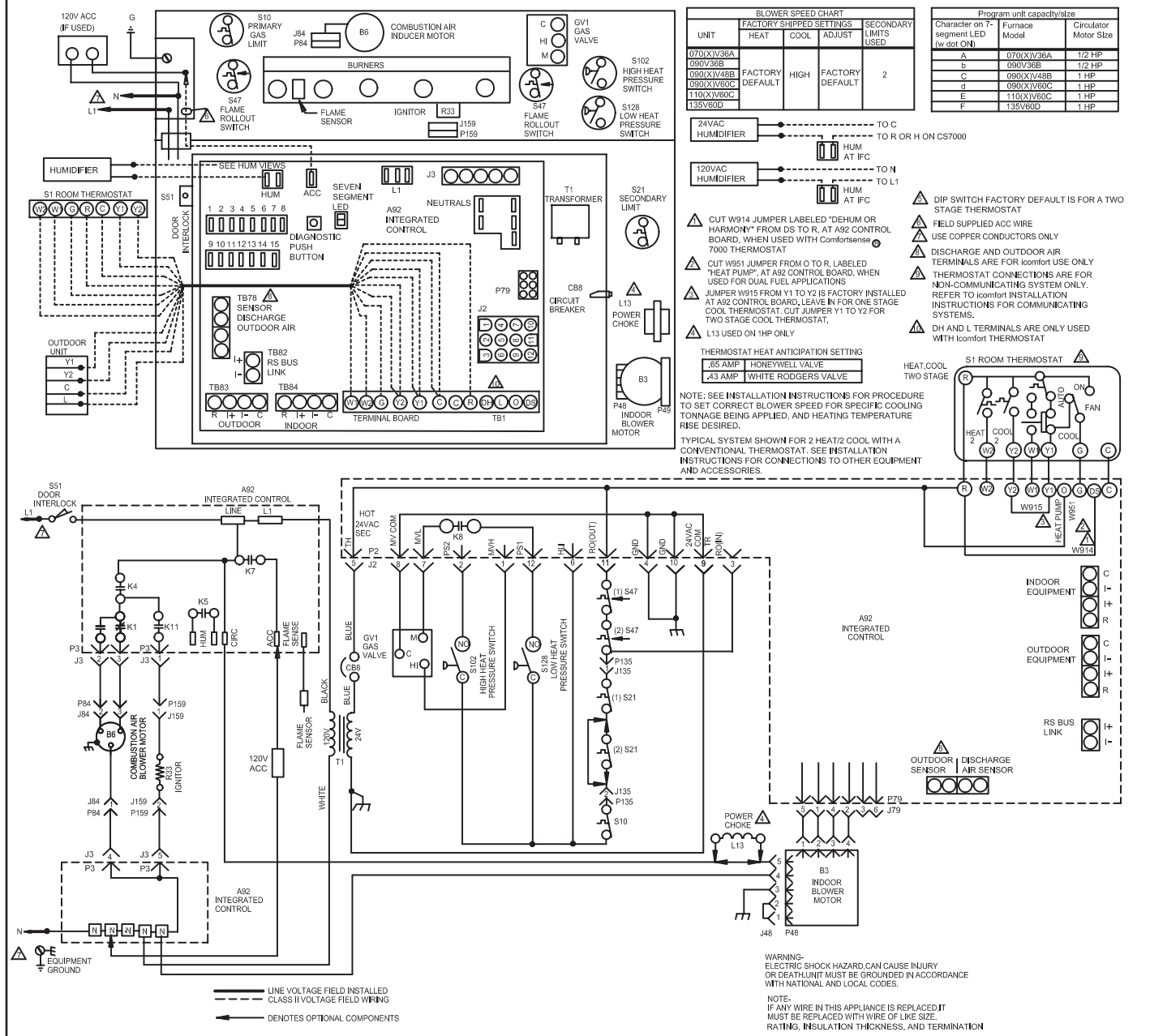


FIGURE 4

SL280DFV Schematic Wiring Diagram

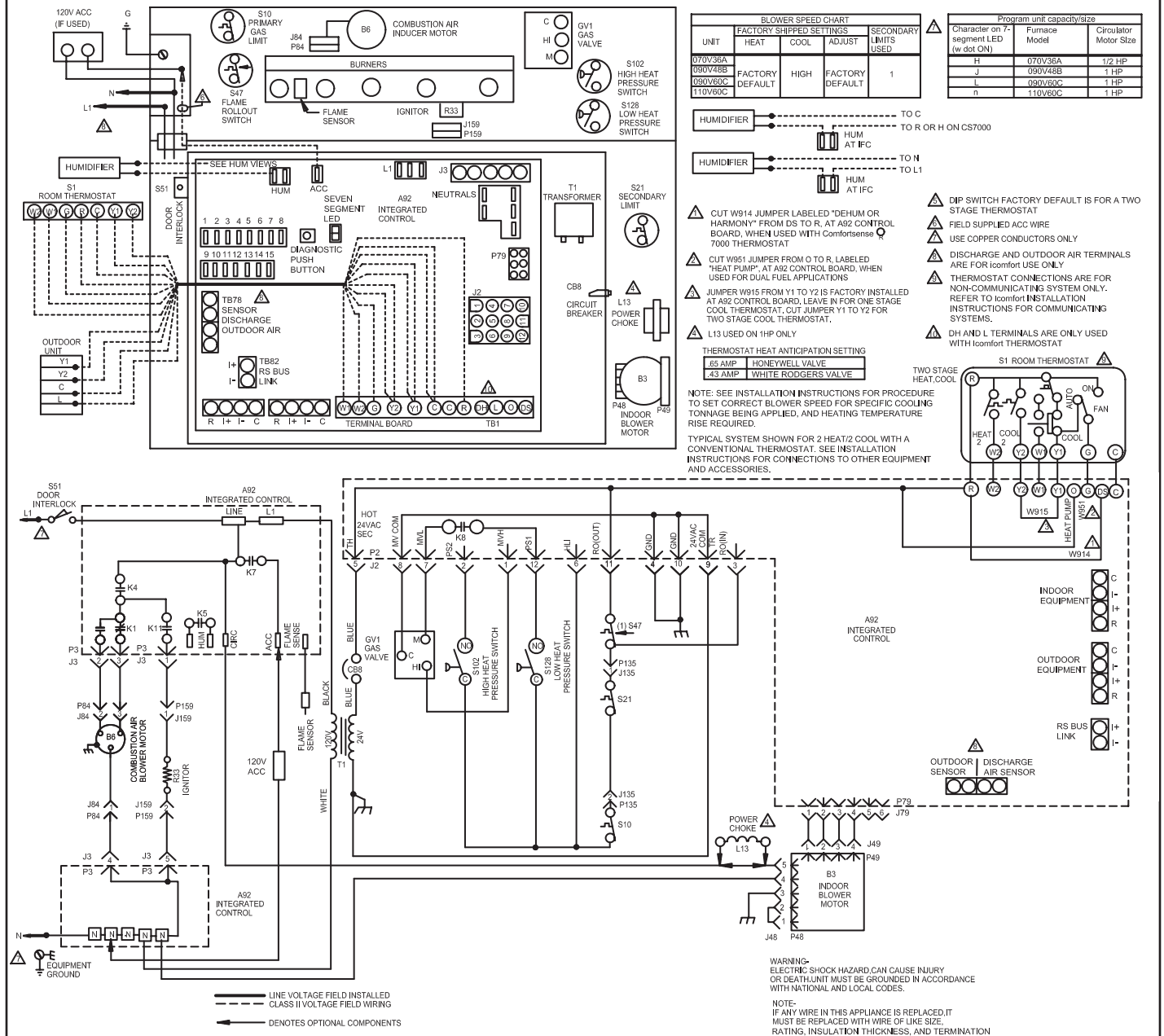


FIGURE 5

SL280UHNV Schematic Wiring Diagram

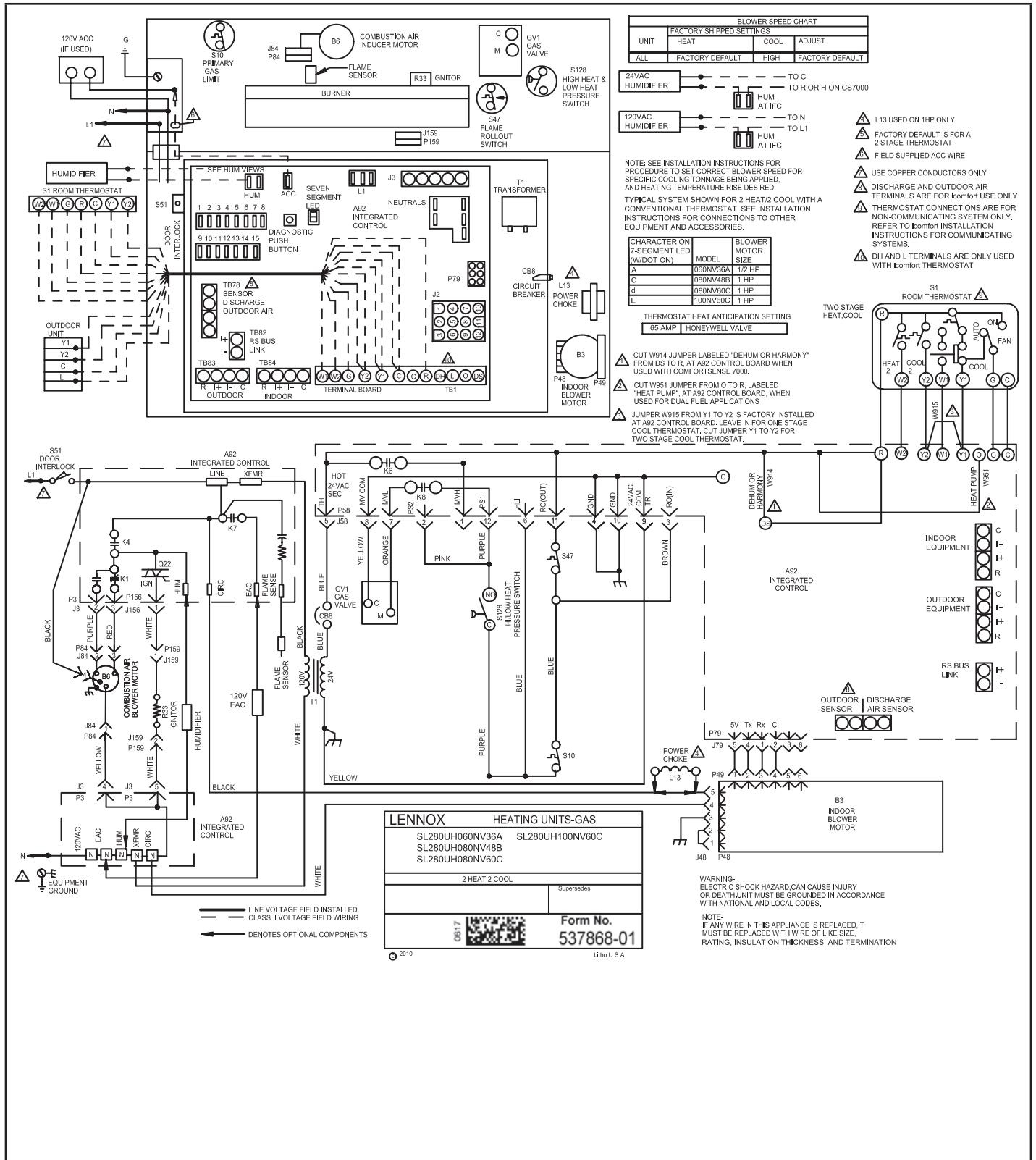
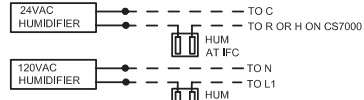
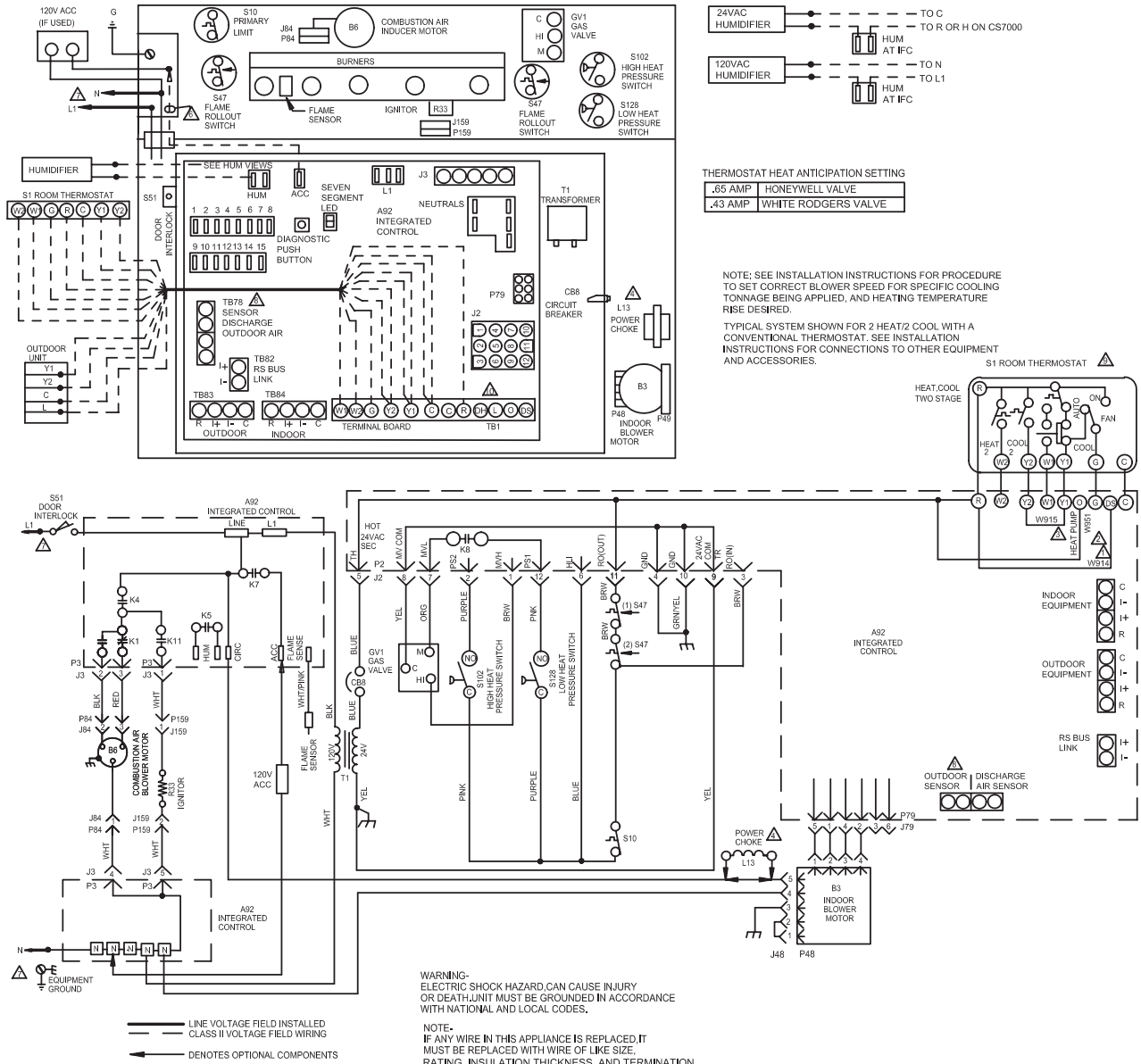


FIGURE 6

EL296UHV Schematic Wiring Diagram

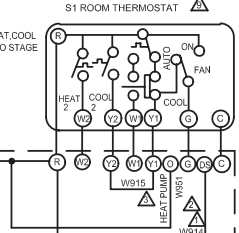


TERMOSTAT HEAT ANTICIPATION SETTING

.65 AMP	HONEYWELL VALVE
.43 AMP	WHITE RODGERS VALVE

NOTE: SEE INSTALLATION INSTRUCTIONS FOR PROCEDURE TO SET CORRECT BLOWER SPEED FOR SPECIFIC COOLING TONNAGE BEING APPLIED, AND HEATING TEMPERATURE RISE DESIRED.

TYPICAL SYSTEM SHOWN FOR 2 HEAT/2 COOL WITH A CONVENTIONAL THERMOSTAT. SEE INSTALLATION INSTRUCTIONS FOR CONNECTIONS TO OTHER EQUIPMENT AND ACCESSORIES.



— LINE VOLTAGE FIELD INSTALLED
 - - - CLASS II VOLTAGE FIELD WIRING
 ← DENOTES OPTIONAL COMPONENTS

WARNING- ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

NOTE- IF ANY WIRE IN THIS APPLIANCE IS REPLACED IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS, AND TERMINATION

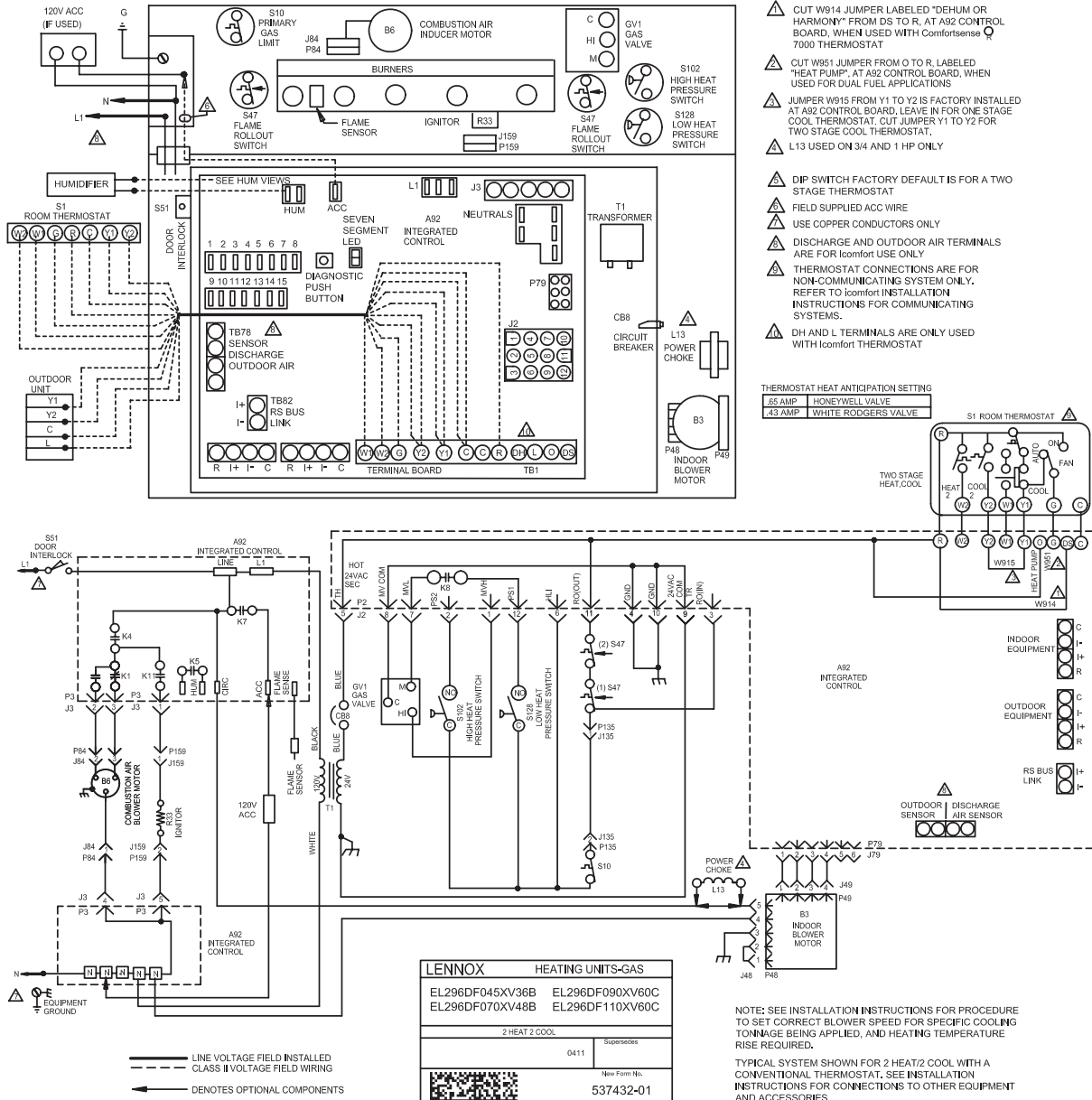
UNIT	BLOWER SPEED CHART			SECONDARY LIMITS USED
	HEAT	COOL	ADJUST	
045XV36B	FACTORY DEFAULT	HIGH	FACTORY DEFAULT	0
070XV36B				
090XV36C				
090XV48C				
090XV60C				
110XV48C				
110XV60C				
135XV60C				

Character on 72 segment LED (w dot ON)	Program unit capacity/size	
	Furnace Model	Circulator Motor Size
0	045XV36B	1/2 HP
1	070XV36B	1/2 HP
2	090XV36C	3/4 HP
3	090XV48C	1 HP
4	090XV60C	1 HP
5	110XV48C	3/4 HP
6	110XV60C	1 HP
7	135XV60C	1 HP

- ⚠ L13 USED ON 3/4 AND 1 HP ONLY
- ⚠ DIP SWITCH FACTORY DEFAULT IS FOR A TWO STAGE THERMOSTAT
- ⚠ FIELD SUPPLIED ACC WIRE USE COPPER CONDUCTORS ONLY
- ⚠ DISCHARGE AND OUTDOOR AIR TERMINALS ARE FOR Icomfort USE ONLY
- ⚠ THERMOSTAT CONNECTIONS ARE FOR NON-COMMUNICATING SYSTEM ONLY. REFER TO Icomfort INSTALLATION INSTRUCTIONS FOR COMMUNICATING SYSTEMS.
- ⚠ DH AND L TERMINALS ARE ONLY USED WITH Icomfort THERMOSTAT
- ⚠ CUT W914 JUMPER LABELED "DEHUM OR HARMONY" FROM DS TO R, AT A92 CONTROL BOARD, WHEN USED WITH Comfortsense 7000 THERMOSTAT
- ⚠ CUT W951 JUMPER FROM O TO R, LABELED "HEAT PUMP" AT A92 CONTROL BOARD, WHEN USED FOR DUAL FUEL APPLICATIONS
- ⚠ JUMPER W915 FROM Y1 TO Y2 IS FACTORY INSTALLED AT A92 CONTROL BOARD, LEAVE IN FOR ONE STAGE COOL THERMOSTAT. CUT JUMPER Y1 TO Y2 FOR TWO STAGE COOL THERMOSTAT.

FIGURE 7

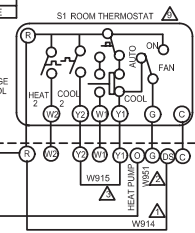
EL296DFV Schematic Wiring Diagram



- ⚠ CUT W814 JUMPER LABELED "DEHUM OR HARMONY" FROM DS TO R, AT A92 CONTROL BOARD, WHEN USED WITH Comfortsense 7000 THERMOSTAT
- ⚠ CUT W851 JUMPER FROM O TO R, LABELED "HEAT PUMP", AT A92 CONTROL BOARD, WHEN USED FOR DUAL FUEL APPLICATIONS
- ⚠ JUMPER W815 FROM Y1 TO Y2 IS FACTORY INSTALLED AT A92 CONTROL BOARD. LEAVE IN FOR ONE STAGE COOL THERMOSTAT. CUT JUMPER Y1 TO Y2 FOR TWO STAGE COOL THERMOSTAT.
- ⚠ L13 USED ON 3/4 AND 1 HP ONLY
- ⚠ DIP SWITCH FACTORY DEFAULT IS FOR A TWO STAGE THERMOSTAT
- ⚠ FIELD SUPPLIED ACC WIRE
- ⚠ USE COPPER CONDUCTORS ONLY
- ⚠ DISCHARGE AND OUTDOOR AIR TERMINALS ARE FOR Icomfort USE ONLY
- ⚠ THERMOSTAT CONNECTIONS ARE FOR NON-COMMUNICATING SYSTEM ONLY. REFER TO Icomfort INSTALLATION INSTRUCTIONS FOR COMMUNICATING SYSTEMS.
- ⚠ DH AND L TERMINALS ARE ONLY USED WITH Icomfort THERMOSTAT

THERMOSTAT HEAT ANTICIPATION SETTING

.85 AMP	HONEYWELL VALVE
.43 AMP	WHITE RODGERS VALVE



LENNOX HEATING UNITS-GAS

EL296DF045XV36B	EL296DF090XV60C
EL296DF070XV48B	EL296DF110XV60C

2 HEAT 2 COOL

0411 Supersedes

New Form No. 537432-01

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NOTE: SEE INSTALLATION INSTRUCTIONS FOR PROCEDURE TO SET CORRECT BLOWER SPEED FOR SPECIFIC COOLING TONNAGE BEING APPLIED, AND HEATING TEMPERATURE RISE REQUIRED.

TYPICAL SYSTEM SHOWN FOR 2 HEAT/2 COOL WITH A CONVENTIONAL THERMOSTAT. SEE INSTALLATION INSTRUCTIONS FOR CONNECTIONS TO OTHER EQUIPMENT AND ACCESSORIES.

BLOWER SPEED CHART

UNIT	FACTORY SHIPPED SETTINGS		
	HEAT	COOL	ADJUST
045XV36B	FACTORY	FACTORY	FACTORY
070XV48B	FACTORY	HIGH	FACTORY
090XV60C	FACTORY	FACTORY	FACTORY
110XV60C	FACTORY	FACTORY	FACTORY

Program unit capacity/size

Character on 7-segment LED (w dot ON)	Furnace Model	Circulator Motor Size
8	045XV36B	1/2 HP
9	070XV48B	3/4 HP
11	090XV60C	1 HP
U	110XV60C	1 HP

WARNING- ELECTRIC SHOCK HAZARD, CAN CAUSE INJURY OR DEATH. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.

NOTE- IF ANY WIRE IN THIS APPLIANCE IS REPLACED, IT MUST BE REPLACED WITH WIRE OF LIKE SIZE, RATING, INSULATION THICKNESS, AND TERMINATION

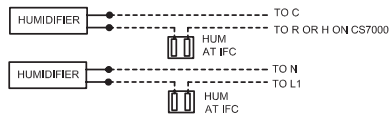


FIGURE 8

SL297UHNV Schematic Wiring Diagram

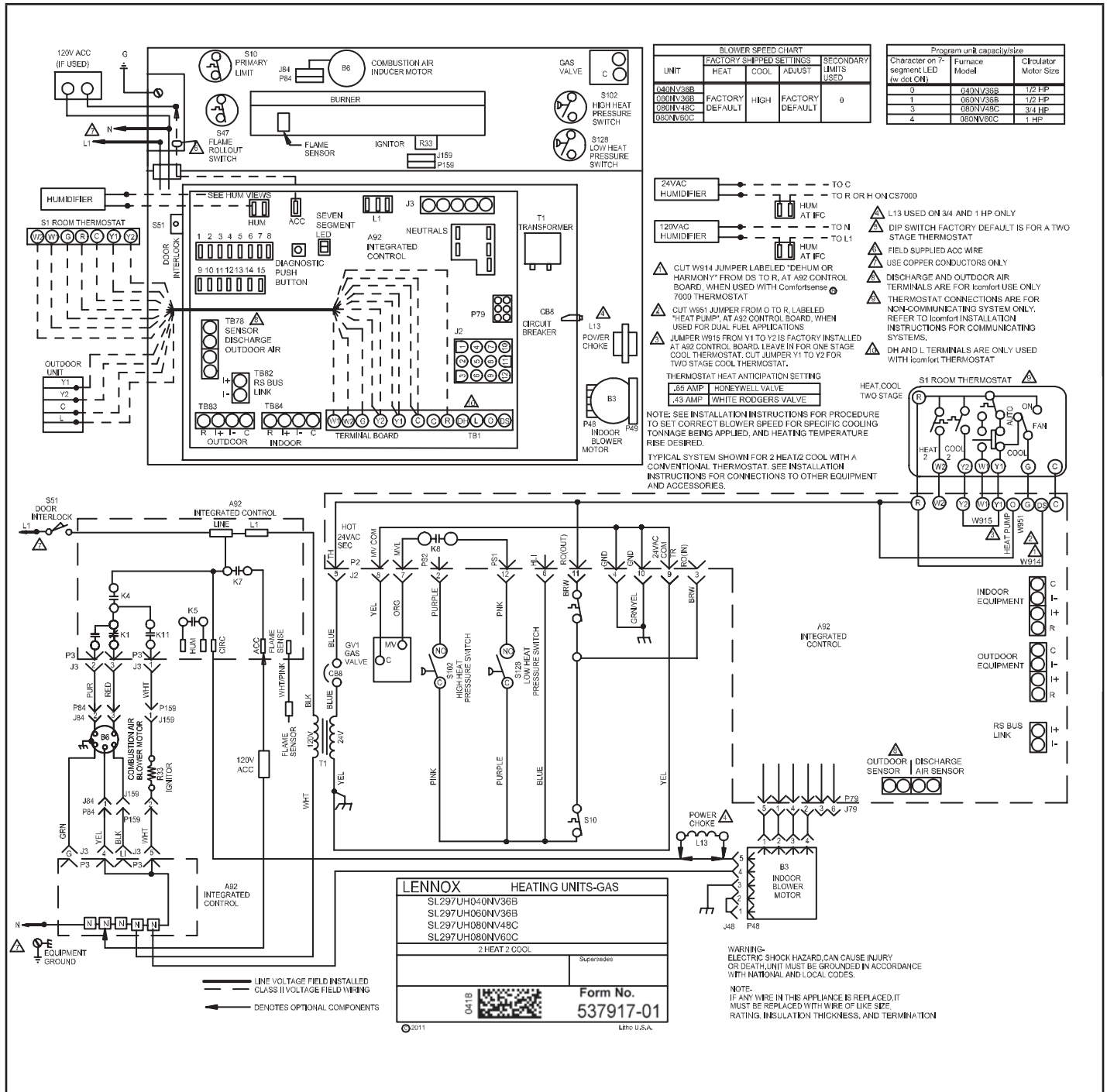


FIGURE 9