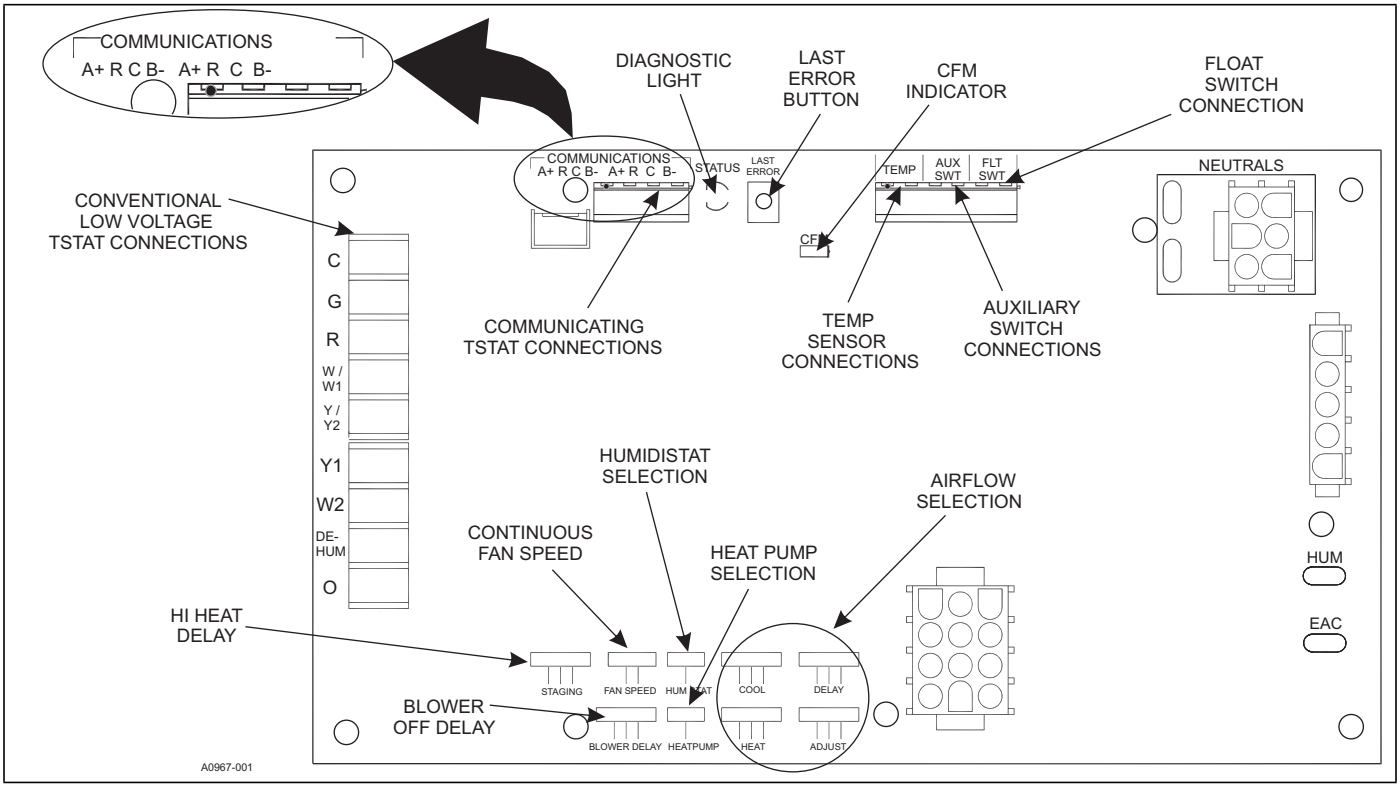

FIGURE 13: Furnace Control Board – Communications Connections

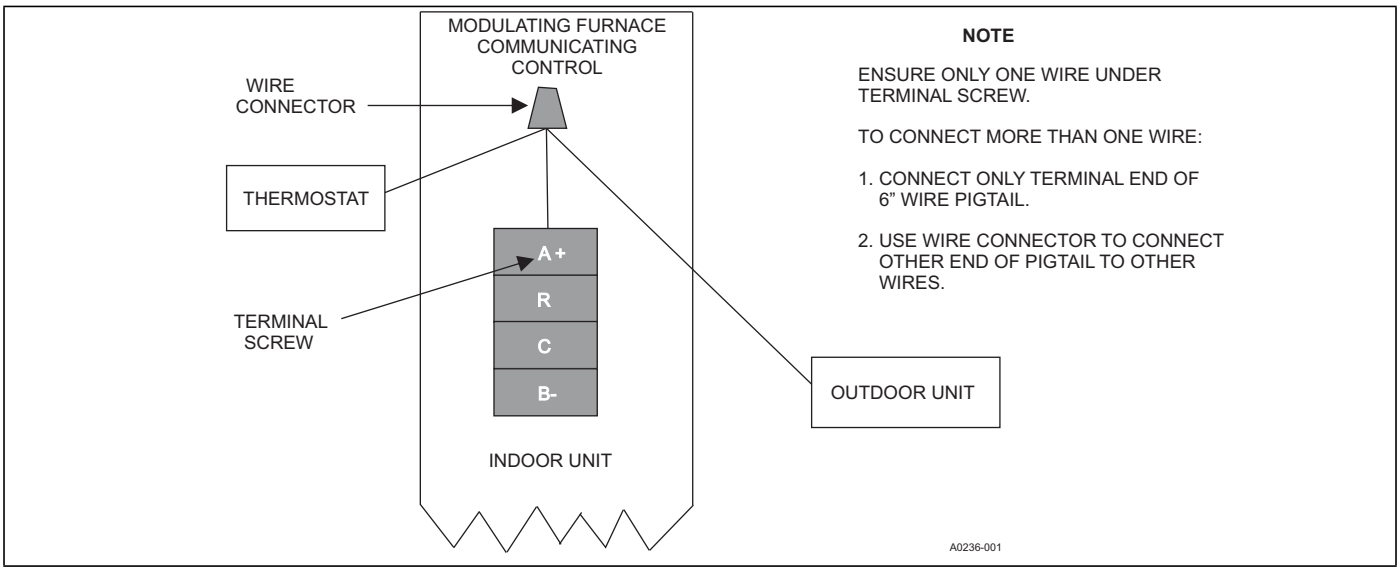

FIGURE 14: Terminal Screw Wire Connection

CONTROL WIRING USING COMMUNICATING CONTROLS (VARIABLE CAPACITY OUTDOOR MODELS)

The Communicating System consists of several intelligent communicating components including the Hx™ Thermostat, the variable speed furnace and the variable capacity air conditioner or heat pump. These components continually communicate with each other via the wire connections shown in Figure 15. Commands, operating conditions, and other data are passed continually between components over the A-R-C-B and A-C-B bus. The result is a new level of comfort, versatility, and simplicity.

In order to use this furnace with a variable capacity outdoor unit, it must be installed with a communicating Hx thermostat.

Use the wiring diagram in Figure 15 to connect the furnace control and the Hx™ Thermostat (wall thermostat) to the communicating outdoor unit. Be sure that all of the “A+” terminals are connected together, all of the “B-” terminals are connected together, all of the “C” terminals are connected together and the “R” terminals from the Hx thermostat to the indoor unit are connected together. Do NOT connect the “R” wire to the outdoor unit. The four small screw terminals in the terminal block on the furnace control should be used.

Connect a short piece of thermostat wire (18 gage minimum) to the ARCB terminals on the furnace control board. Use wire connectors to connect this wire to the room thermostat wire and the outdoor unit thermostat wire. The outdoor unit contains its own control transformer. DO NOT run a thermostat “R” wire to the outdoor unit. See Figure 15 for details.

IMPORTANT

Do not place more than one wire under any single communication terminal screw (there are four communication terminal screws). If more than one wire must be connected to a terminal screw, attach only the terminal end of a one wire pigtail no longer than 6“, and use a wire connector to connect the other end of the pigtail to the other wires. Failure to do this will result in nuisance communication error faults. See Figure 14.

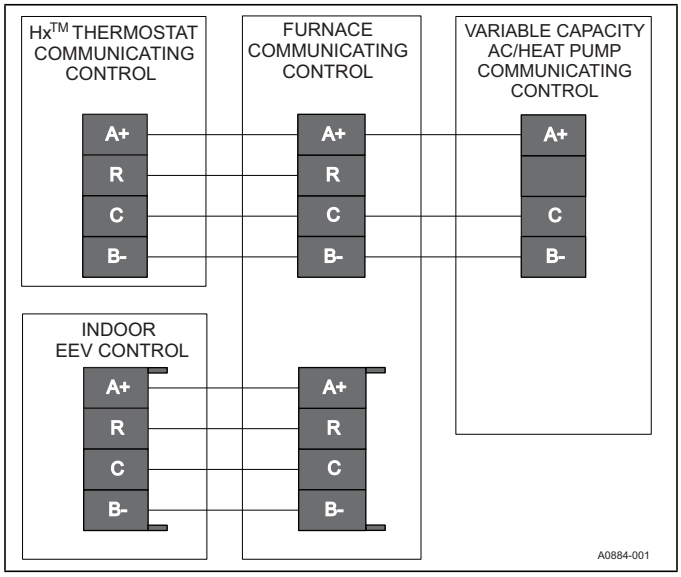

FIGURE 15: Furnace with Variable Capacity AC or HP

Float Switch Input

An optional switch may be connected to the FLT SWT terminals on the control board. This feature is only functional when used with the Communicating Control. It is intended for use with a water overflow switch that has contacts in either the normally open (NO) or (NC) position. Do NOT install a float switch in series with any thermostat wiring when using communicating controls.

Auxiliary Switch Input

An optional switch may be connected to the AUX SWT terminals on the control board. This feature is only functional when used with the Communication Control. Refer to Communication Control Installation Manual.

CONVENTIONAL LOW VOLTAGE CONTROL WIRING

Install the field-supplied thermostat by following the instructions that come with the thermostat. With the thermostat set in the OFF position and the main electrical source disconnected, connect the thermostat wiring from the wiring connections on the thermostat to the terminal board on the ignition module, as shown in Figures 16 - 19. Electronic thermostats may require the common wire to be connected. Apply strain relief to thermostat wires passing through cabinet. If air conditioning equipment is installed, use thermostat wiring to connect the Y and C terminals on the furnace control board to the proper wires on the outdoor unit.

IMPORTANT

Set the heat anticipator in the room thermostat to 0.4 amps. Setting it lower will cause short cycles. Setting it higher will cause the room temperature to exceed the set points.

IMPORTANT

Some electronic thermostats do not have adjustable heat anticipators. They should be set to six cycles per hour. Follow the thermostat manufacturer's instructions.

The 24-volt, 40 VA transformer is sized for the furnace components only, and should not be connected to power auxiliary devices such as humidifiers, air cleaners, etc. The transformer may provide power for an air conditioning unit contactor.

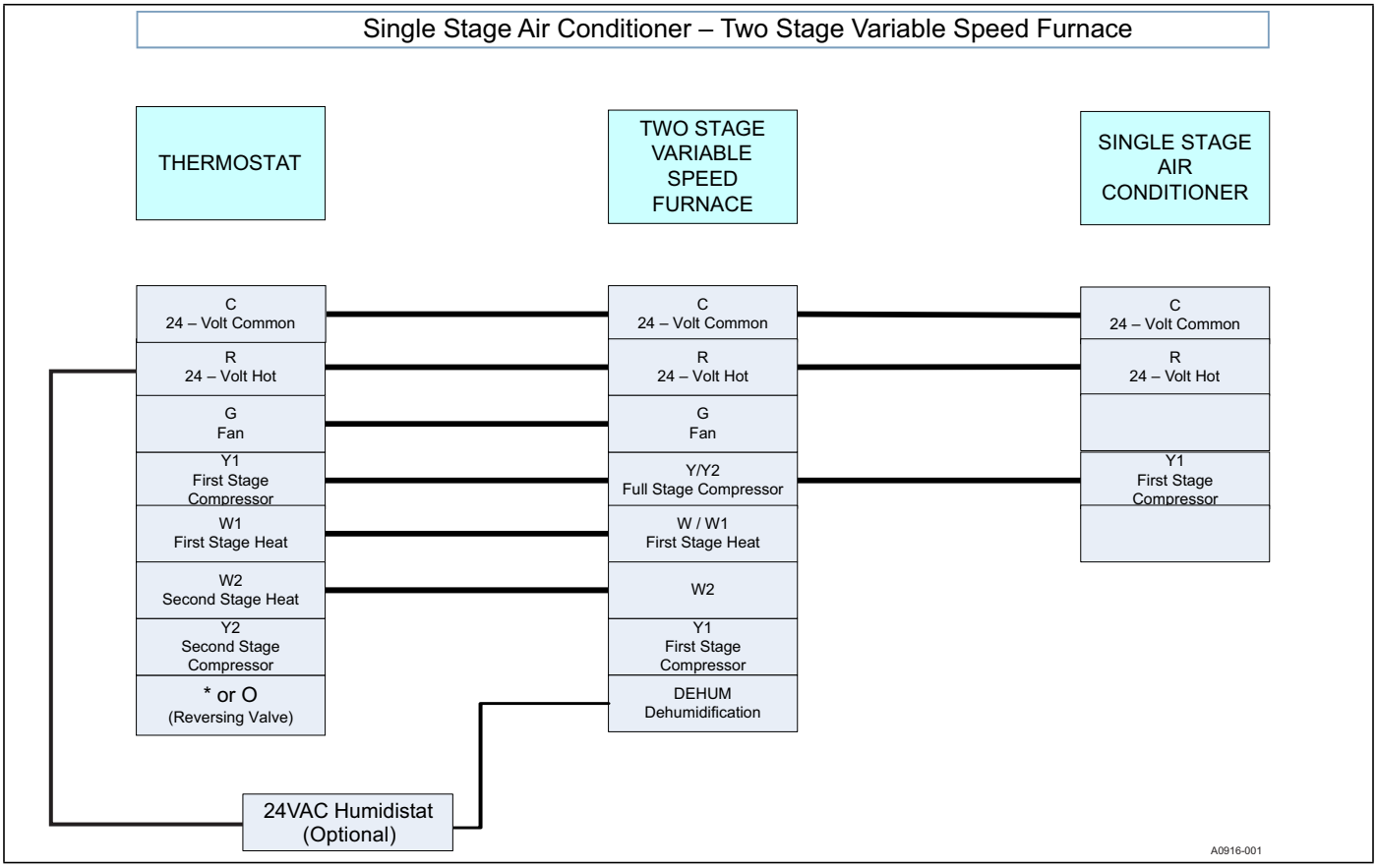

FIGURE 16: Thermostat Chart - Single Stage Air Conditioner with Two Stage Variable Speed Furnace

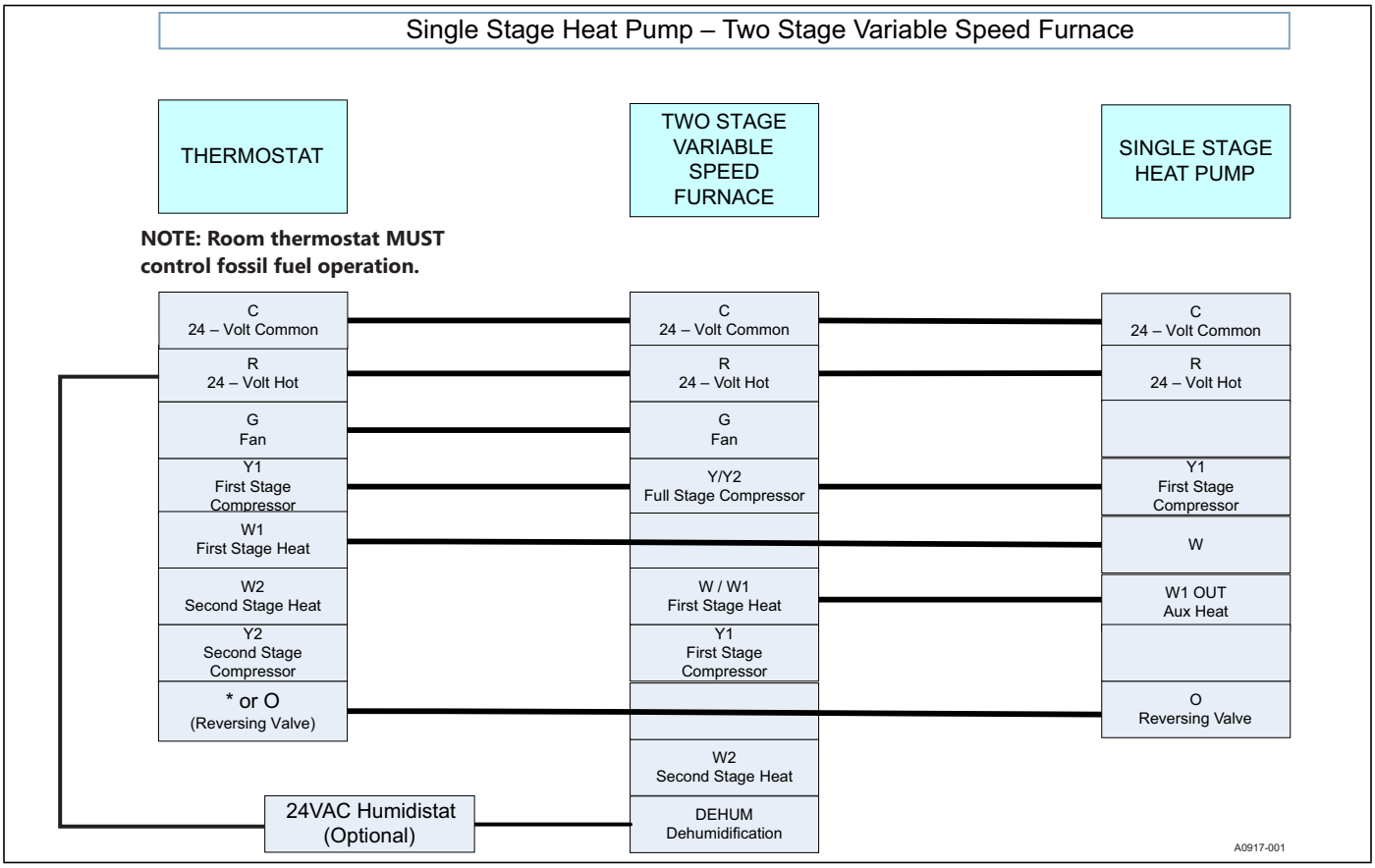

FIGURE 17: Thermostat Chart - Single Stage Heat Pump with Two Stage Variable Speed Furnace

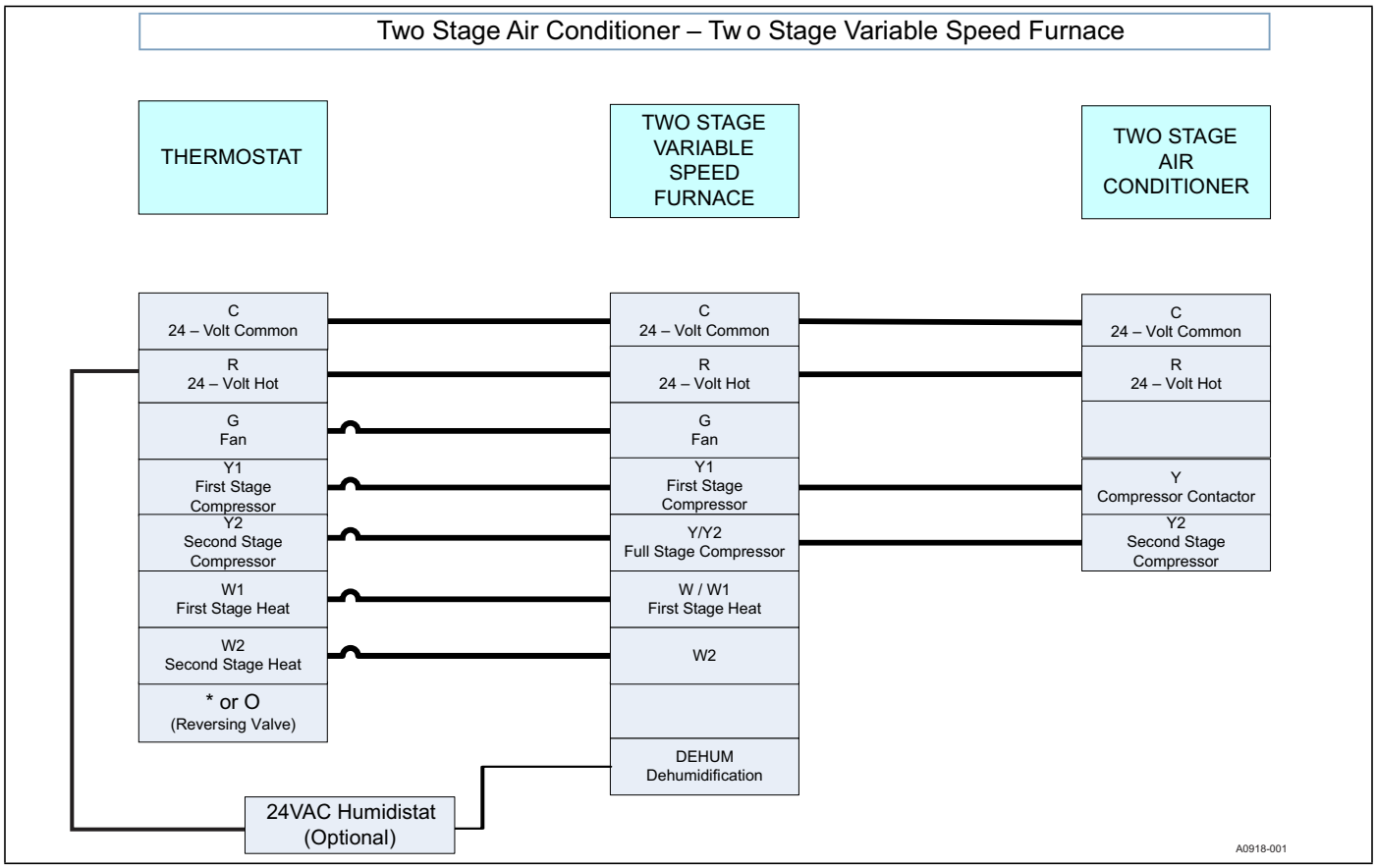

FIGURE 18: Thermostat Chart - Two Stage Air Conditioner with Two Stage Variable Speed Furnace

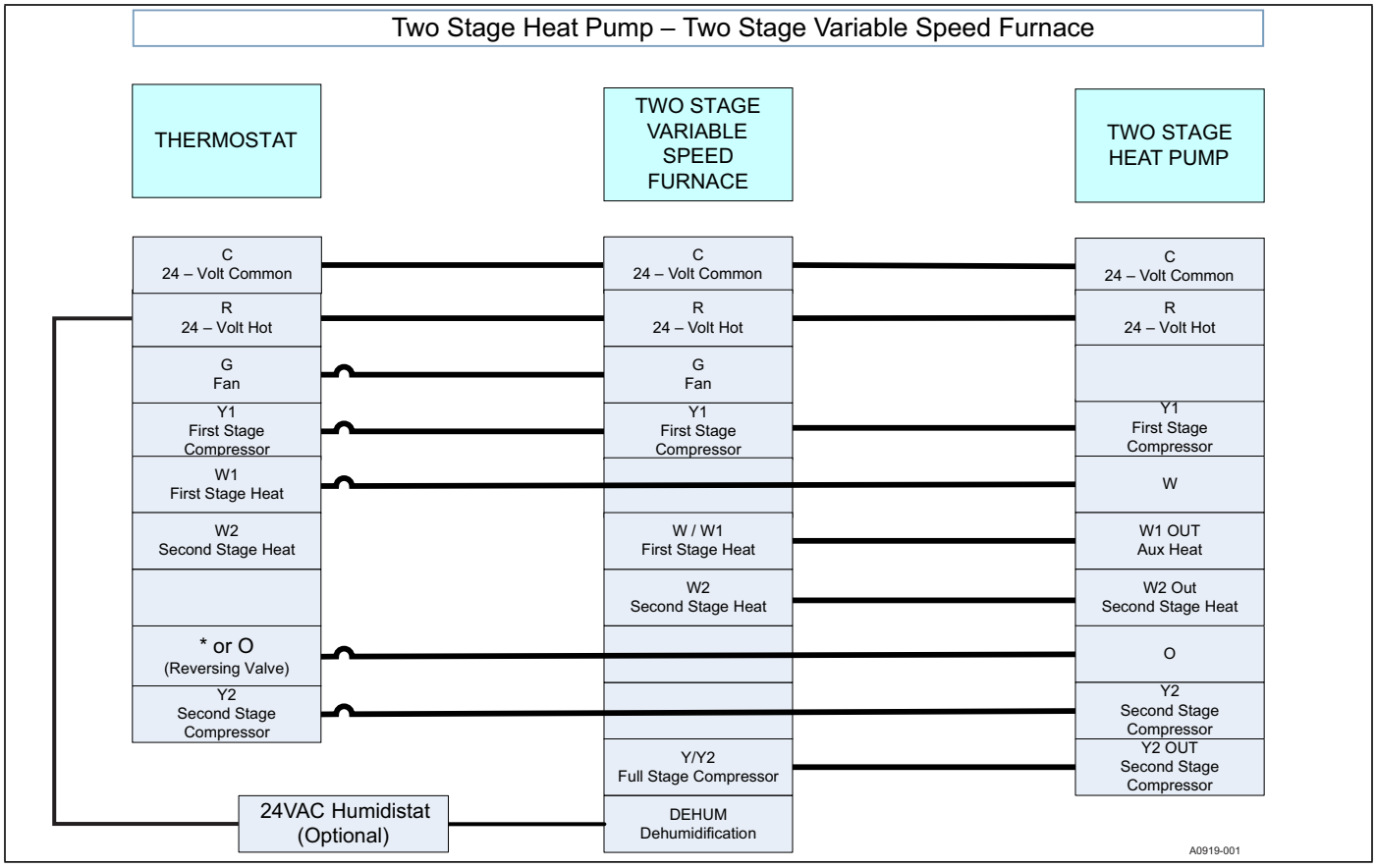

FIGURE 19: Thermostat Chart - Two Stage Heat Pump with Two Stage Variable Speed Furnace (Hot Heat Pump or Conventional)