

TABLE 3: Low Voltage Connections

Wire	Colors	Signals	Comment
R	Red	24 VAC power (fused)	
G	Green	Continuous Fan operation	Fan Speed, 63% of high cool speed.
Y/Y2	Yellow	Second or full stage compressor operation	
Y1	Yellow & Black	First stage compressor operation	Not used with outdoor units having one stage compressors.
W2	Brown	Second stage heat operation	
W1	White	First stage heat operation	
O	Orange	Reversing valve operation	
EAC	Field Supplied Wiring	Electric Air Cleaner	Located on P2 connector. There is 24VAC output during indoor blower operation to energize a pilot duty relay for an electronic air cleaner.
X/L	Field Supplied Wiring	Connection point for heat pump fault indicator	This terminal is a connection point only and does not affect air handler control operation.
HUM	Purple	Humidity switch input	
C (COM)	Blue	24 VAC common	

The field wiring is to be connected at the pigtailed supplied with the control board harness.

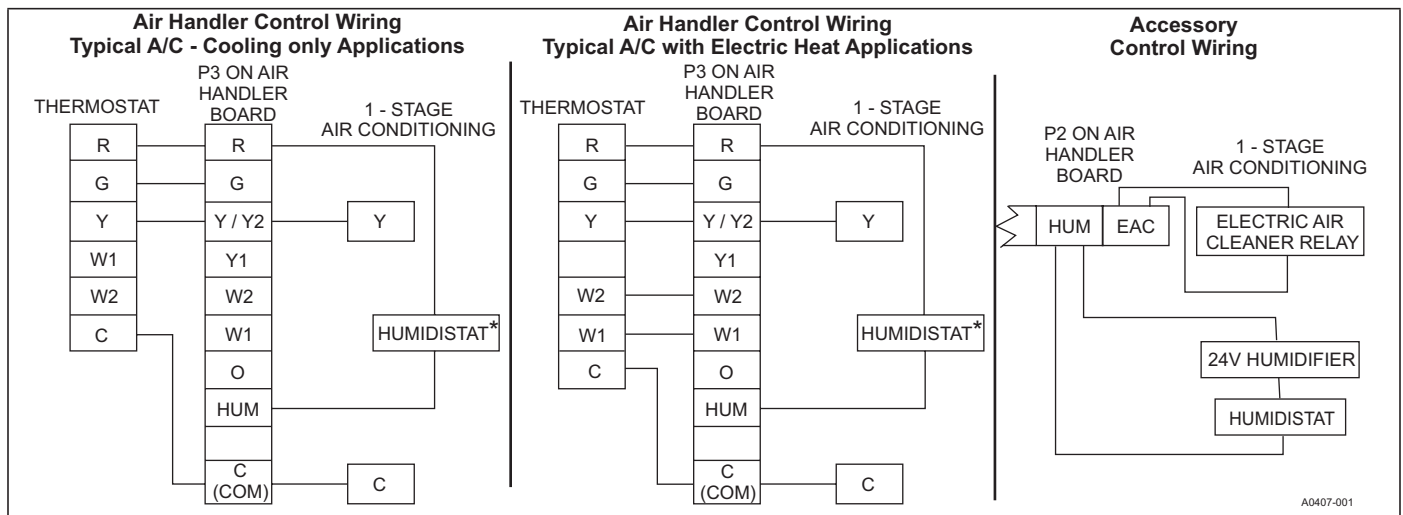


FIGURE 24: Cooling Models with and without Electric Heat Wiring

* Optional dehumidification humidistat switch contacts open on humidity rise.

NOTES:

1. "Y/Y2" Thermostat wire must be connected for full CFM and applications requiring 60 second blower off delay for SEER enhancement.
2. Move HUM STAT jumper on air handler control board to YES position if humidistat is used.
3. For heat pump applications - set AC/HP jumper on air handler control board to the HP position.

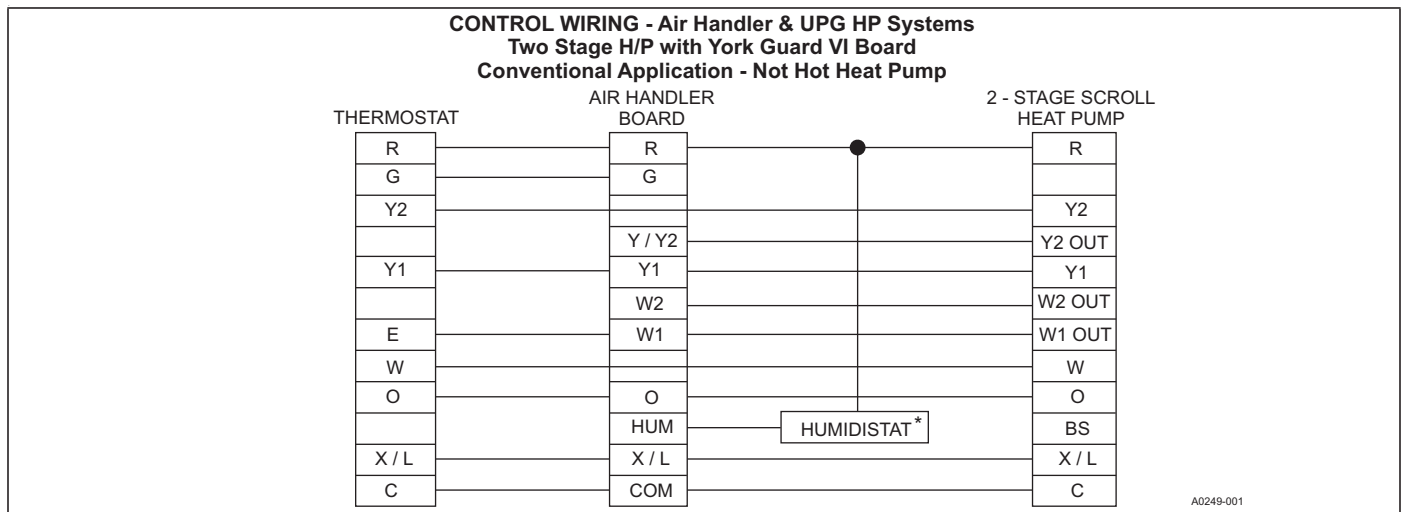


FIGURE 25: Two-Stage Heat Pump Wiring

* Optional dehumidification humidistat switch contacts open on humidity rise.

NOTES:

1. "Y/Y2" Thermostat wire must be connected for full CFM and applications requiring 60 second blower off delay for SEER enhancement.
2. Remove humidistat jumper on air handler control board.
3. For heat pump applications - set AC/HP jumper on air handler control board to the HP position.

CONTROL WIRING USING COMMUNICATING CONTROLS

The Communicating System consists of several intelligent communicating components including the Communicating Thermostat Control (touch-screen wall thermostat), variable speed air handler, air conditioner (15 and 18 SEER premium air conditioners) or heat pump (13, 15 and 18 SEER premium heat pumps), which continually communicate with each other via a four-wire connection called the A-R-C-B bus. Commands, operating conditions, and other data are passed continually between components over the A-R-C-B bus. See Figure 26. The result is a new level of comfort, versatility, and simplicity.

In order to use this air handler in full communications (COMM) mode, it MUST be installed with the matching touch-screen Communicating Control (wall thermostat) and an outdoor air conditioner or heat pump with a fully communicating control.

This air handler may also be used along with the touch-screen Communicating Control and a non-communicating outdoor air conditioner through the addition of a communicating AC Control board to the outdoor unit. This system allows full communication between the air handler, outdoor unit, and touch-screen Communication Control.

Use the wiring diagram below to connect the air handler control, touch-screen Communicating Control (wall thermostat) and 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 all of the "R" terminals are connected together. See Figure 26 & 27. When using a fully communicating system, removal of the low voltage signal connector at P3 is recommended (C, G, R, etc.). The four small screw terminals in the terminal block on the end of the air handler control should be used.

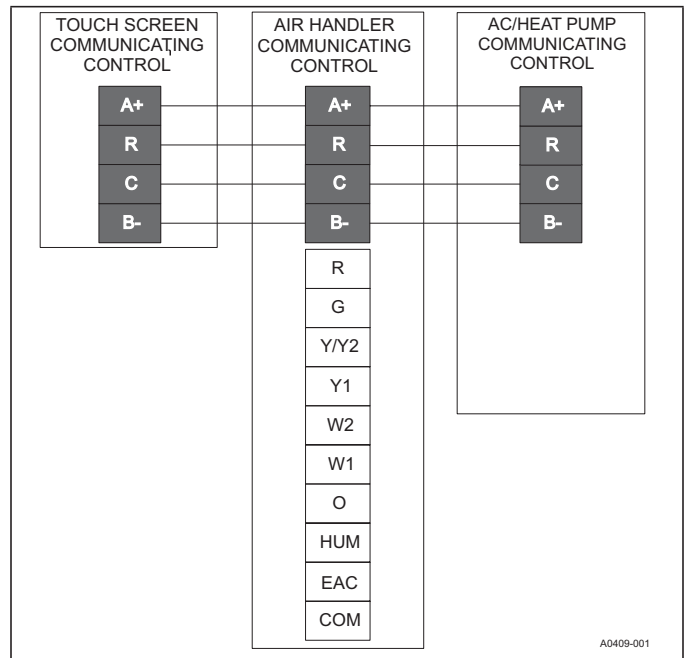


FIGURE 26: Air Handler with Communicating AC or HP

⚠ CAUTION

If any field-supplied wiring is to be connected to the control board, such as will be the case if the Communicating Control is used or if a humidistat, float switch or leaving air temperature switch are used, the additional wires MUST be routed through the hole at the lower left of the control box. DO NOT add any additional holes to the control box. After attaching the additional wires to the board, the remaining hole around the wires must be plugged with the sealant putty supplied or with a suitable waterproof sealant. FAILURE TO SEAL THIS HOLE MAY ALLOW WATER TO ENTER THE CONTROL BOX AND DAMAGE THE CONTROL BOARD.

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 27.

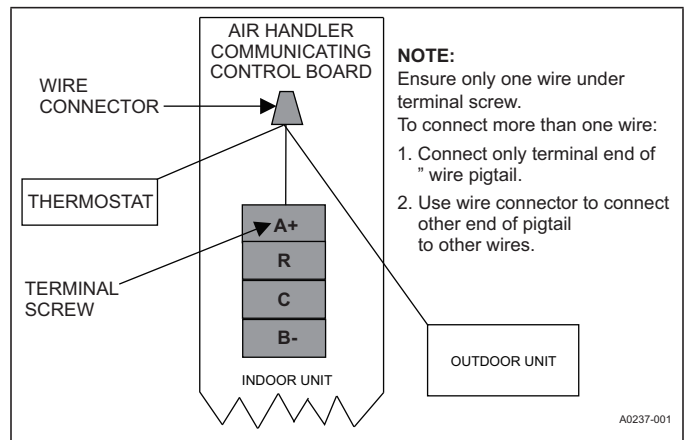


FIGURE 27: Multi-wire Terminal Connection

FLOAT SWITCH INPUT

An optional switch may be connected to the FLT 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.

LEAVING AIR TEMP SENSOR INPUT

A plenum air temperature sensor (thermistor) can be connected to the LAS terminals on the control board. The Communicating Control can monitor the temperature of the supply air in the plenum.