

17 Air Handler Low Voltage Connections

The following composite wiring diagrams detail various configurations in which the air handlers can be used. Examples include single-stage cooling and heat pump with single or two-stage electric heating. All these configurations can be applied with convenient connections to outdoor thermostat applications.

The following sections are detailed:

- Single-Stage Cooling
- Heat Pump

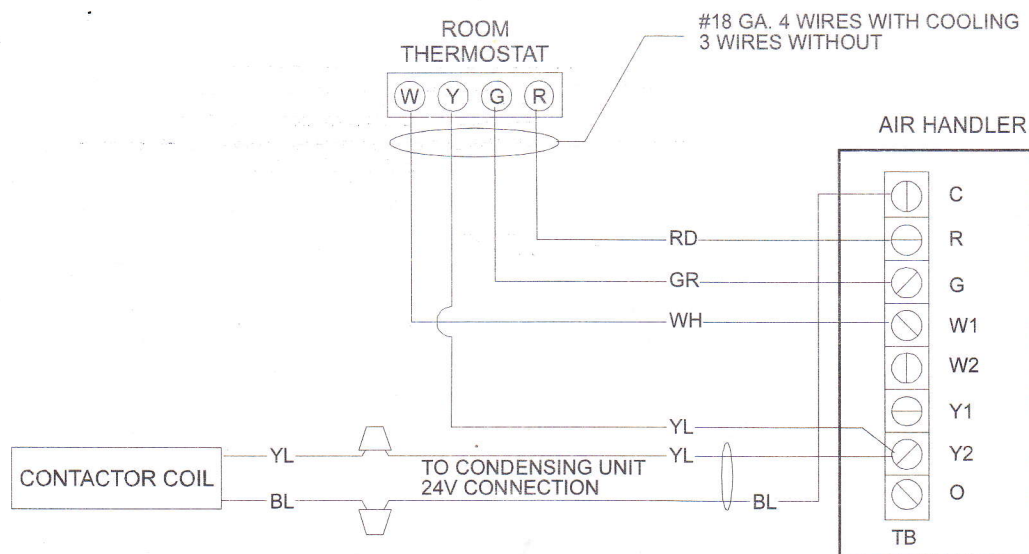
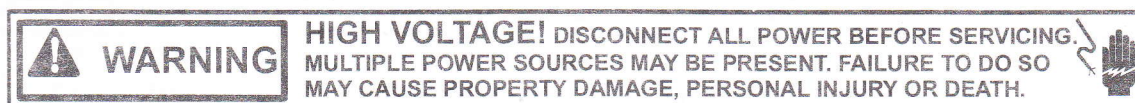
Each diagram details the connections between room thermostat and the air handlers, and the connections between the air handlers and the Condensing Unit (or Heat Pump) with optional connections to Outdoor Thermostats. For each configuration, refer to the explanation of the proper jumper(s) to remove for the corresponding blower speed that will result in the programmed fixed speed ECM motor.

IMPORTANT: WHEN MATCHING THE ASPT AIR HANDLERS TO A SINGLE SPEED COOLING OR HEAT PUMP UNIT, REMEMBER TO CONNECT "Y" FROM THE THERMOSTAT TO THE "Y2" ON THE LOW VOLTAGE TERMINAL BOARD.

An equivalent thermostat can be used in place of the manufacturer's thermostat part number.

NOTE: Some models feature low voltage wires and do not include a terminal block. For those applications use the corresponding colored wires.

GOODMAN HEAT PUMP



COOLING UNIT WITH OPTIONAL HEAT KITS OF 10 kW AND BELOW

NOTES:

- 1) OUTDOOR THERMOSTAT (OT-1) SHOULD BE THE FIRST TO CLOSE AND THE LAST TO OPEN.
- 2) JUMPER W1 AND W2 TOGETHER IF OT-2 IS NOT USED.
- 3) REMOVE WIRE WHEN USING OUTDOOR THERMOSTAT.

NOMENCLATURE:

OT - OUTDOOR THERMOSTAT (OPTIONAL)
EHR - EMERGENCY HEAT RELAY (OPTIONAL)

COLOR CODES

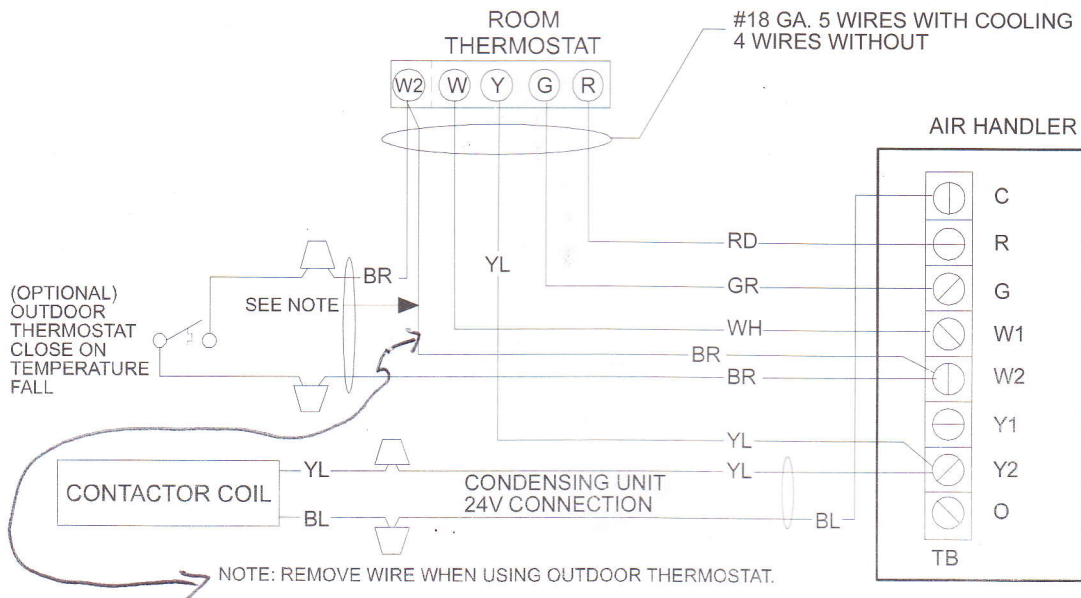
RD - RED
YL - YELLOW
BL - BLUE
BR - BROWN
OR - ORANGE
WH - WHITE

Wiring is subject to change. Always refer to the wiring diagram on the unit for the most up-to-date wiring.

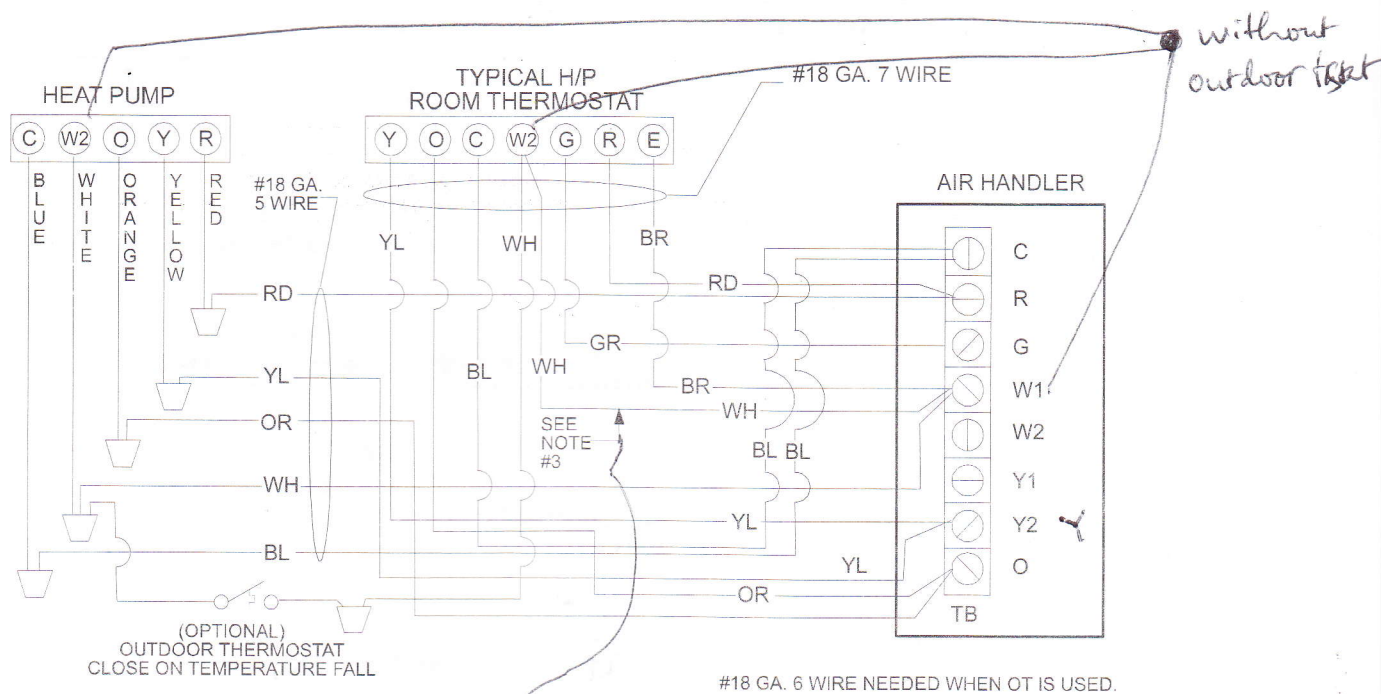


WARNING

HIGH VOLTAGE! DISCONNECT ALL POWER BEFORE SERVICING.
 MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO
 MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



COOLING UNIT WITH OPTIONAL HEAT KITS OF 15 kW AND ABOVE AND ROOM THERMOSTAT WITH TWO STAGES OF HEAT



#18 GA. 6 WIRE NEEDED WHEN OT IS USED.

HEAT PUMP UNIT WITH OPTIONAL HEAT KITS OF 10 kW AND BELOW

NOTES:

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- 3) REMOVE WIRE WHEN USING OUTDOOR THERMOSTAT.

NOMENCLATURE:

OT - OUTDOOR THERMOSTAT (OPTIONAL)
 EHR - EMERGENCY HEAT RELAY (OPTIONAL)

COLOR CODES

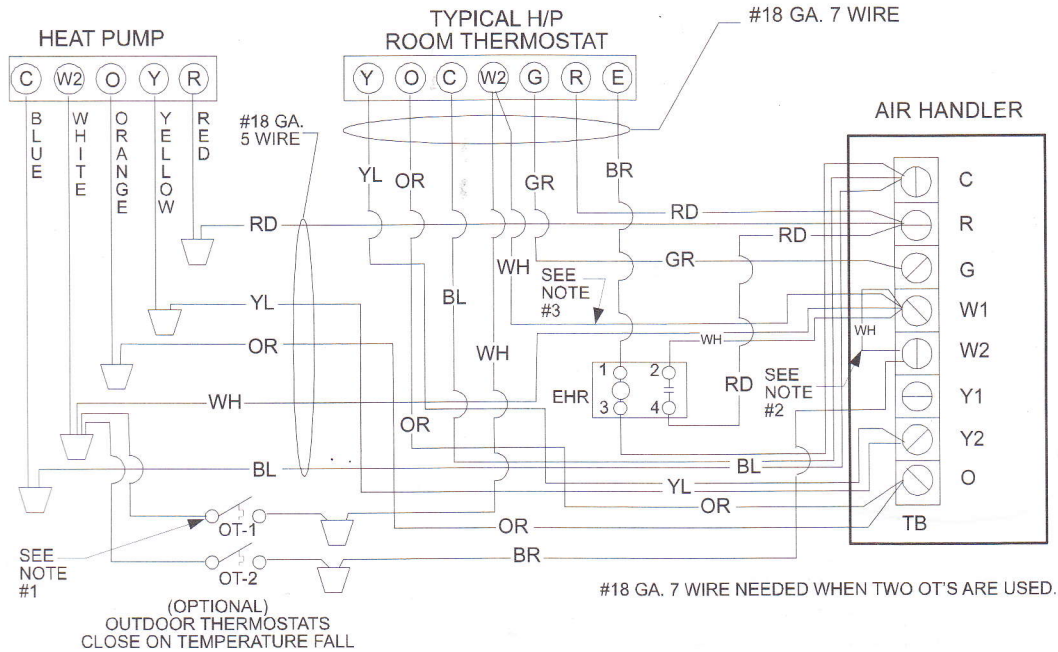
RD - RED
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 BR - BROWN
 OR - ORANGE
 WH - WHITE

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HEAT PUMP UNIT WITH OPTIONAL HEAT KITS OF 15 kW AND ABOVE

NOTES:

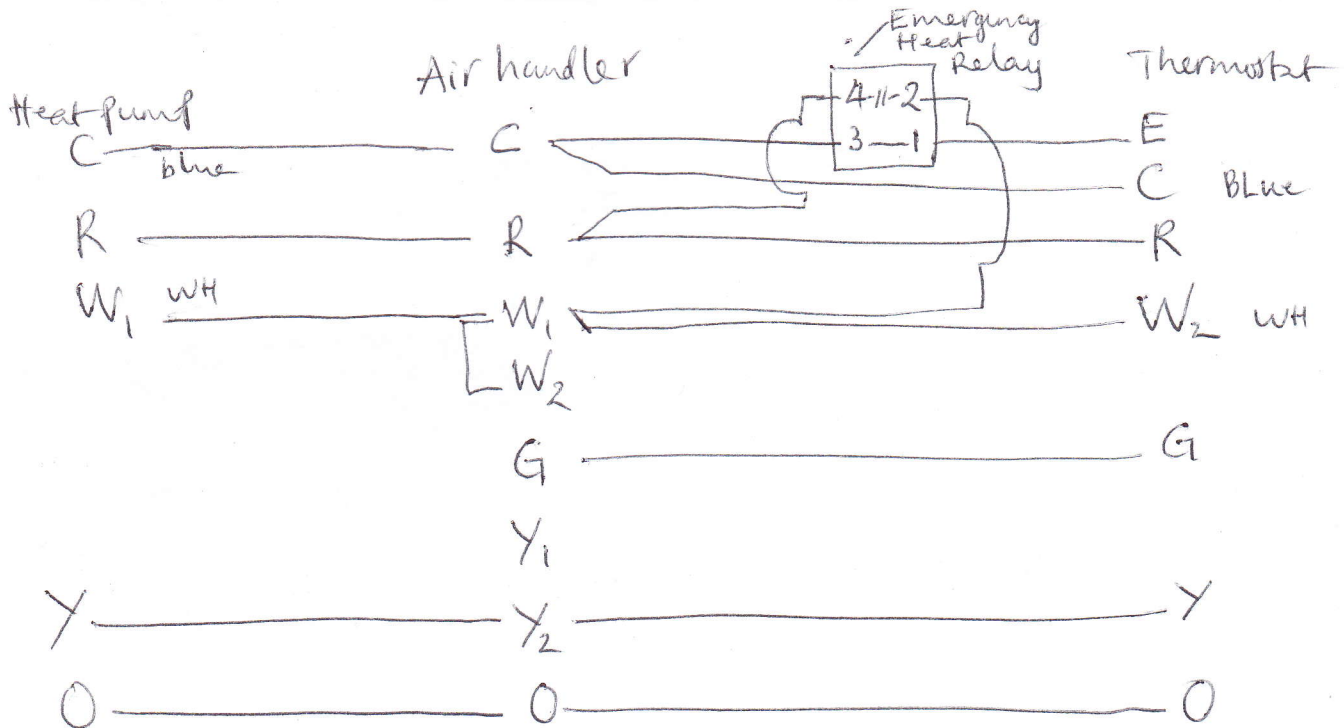
- 1) OUTDOOR THERMOSTAT (OT-1) SHOULD BE THE FIRST TO CLOSE AND THE LAST TO OPEN.
- 2) JUMPER W1 AND W2 TOGETHER IF OT-2 IS NOT USED.
- 3) REMOVE WIRE WHEN USING OUTDOOR THERMOSTAT.

NOMENCLATURE:

- OT - OUTDOOR THERMOSTAT (OPTIONAL)
 EHR - EMERGENCY HEAT RELAY (OPTIONAL)

COLOR CODES

- RD - RED
 YL - YELLOW
 BL - BLUE
 BR - BROWN

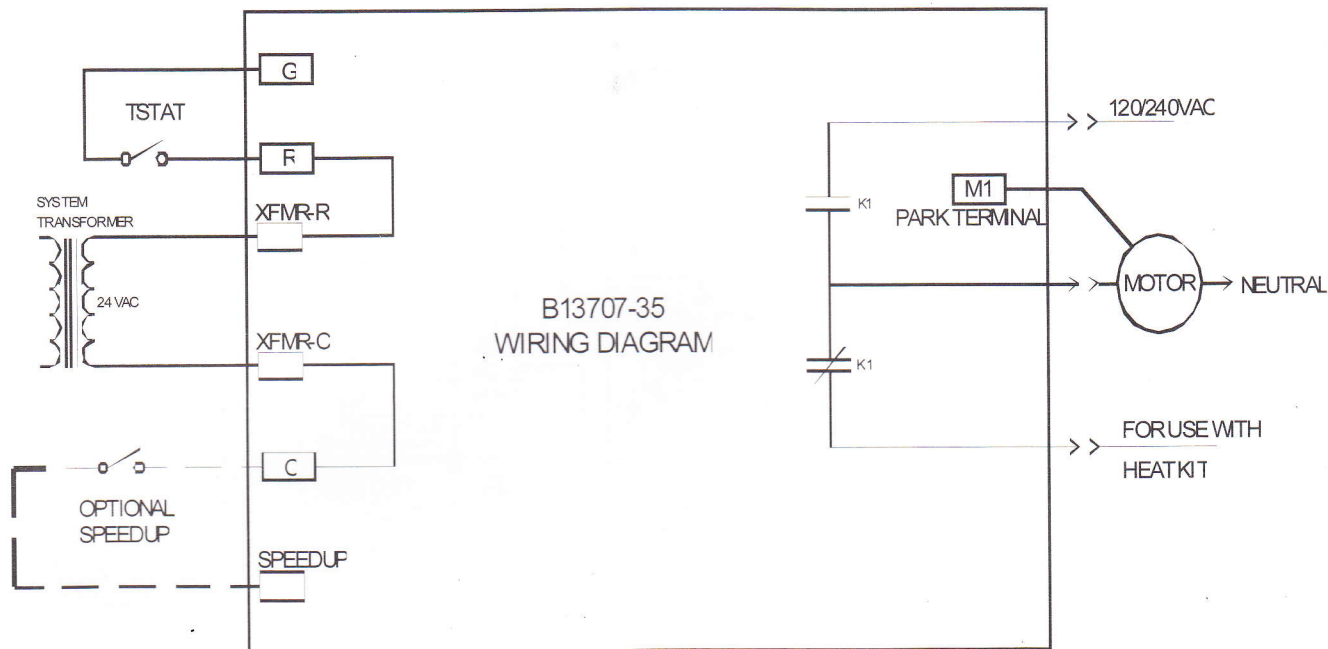


Wiring without outdoor T'stat

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ELECTRONIC BLOWER TIME DELAY RELAY



The Electronic Blower Time Delay Relay provides power to the blower motor with a delay of 7 seconds after 24VAC is applied to "G". After 24VAC is removed from "G", the blower motor output is de-energized after a delay of 65 seconds.

Normal Time Delays	60Hz	50Hz
Turn On Delay	7.0 SEC.±1%	8.4 SEC. ±1%
Turn Off Delay	65.0 SEC.±1%	78.0 SEC. ±1%

Field test mode: Shorting the "speedup" quick connect to "C" decrease times as follows:

Speedup Times	60Hz	50Hz
Turn On Delay	3.0 SEC.±1%	3.6 SEC. ±1%
Turn Off Delay	5.0 SEC.±1%	6.0 SEC. ±1%

Field test mode is cancelled when the "speedup" quick connect to "C" short is removed.

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3-Phase Heat Kit

