

T961NN50 Universal Wired Thermostat



Wiring Guide

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EC Tool Pro App

Scan the QR code or click the link of one of the App stores



Support

tstatsupport@vtechhotelphones.com

Wiring Options

During the installation of T961NN50, the installation engineer needs to connect the colored wires to the corresponding terminals on the thermostat board according to your building’s HVAC system and the wiring diagram you want to configure.

Below are all of the wiring diagram options you can configure on your thermostat board.

Wiring Diagrams PTAC-Conventional System

1 Stage Cool	1 Fan Speed
	2 Fan Speed
1 Stage Cool, 1 Stage Heat	1 Fan Speed
	2 Fan Speed
1 Stage Cool, 2 Stage Heat	1 Fan Speed
	2 Fan Speed
1 Stage Heat	1 Fan Speed
	2 Fan Speed
2 Stage Heat	1 Fan Speed
	2 Fan Speed

Wiring Diagrams Conventional System

1 Stage Cool	1 Fan Speed
1 Stage Cool, 1 Stage Heat	1 Fan Speed
1 Stage Cool, 2 Stage Heat	1 Fan Speed
1 Stage Heat	1 Fan Speed
2 Stage Heat	1 Fan Speed

Wiring Diagrams PTAC-Heat Pump System

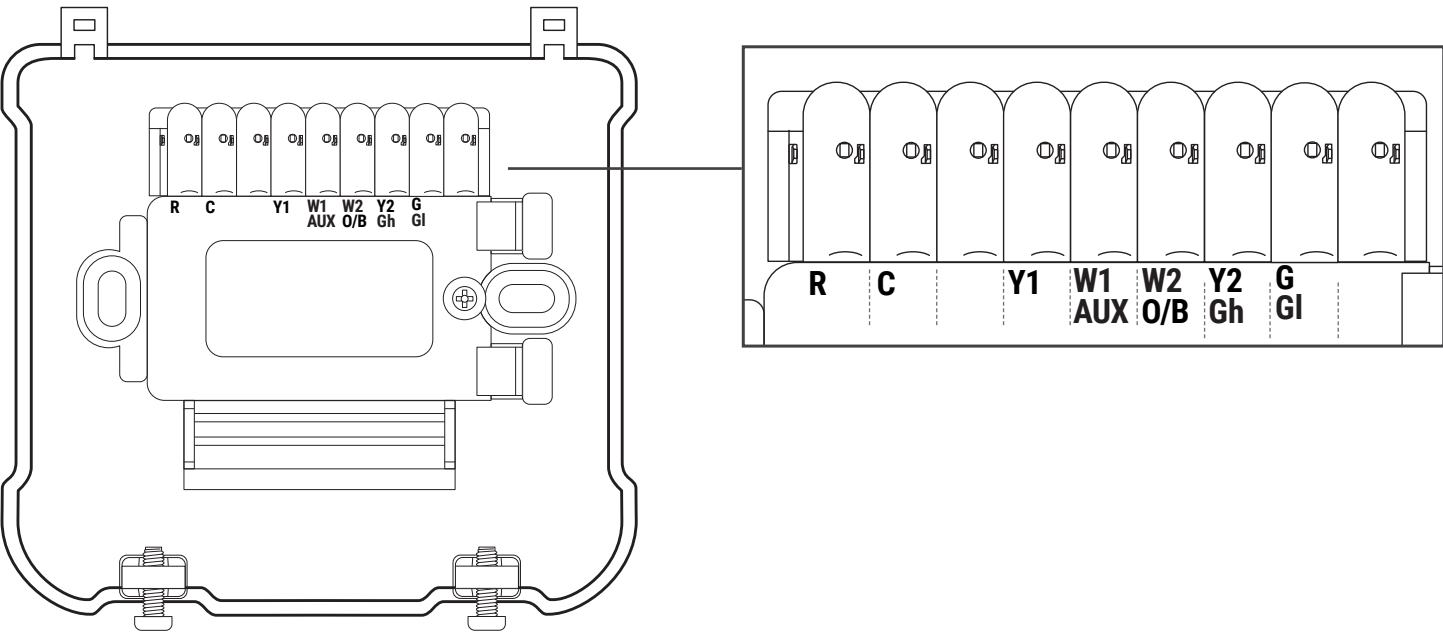
1 Stage Heat Pump	1 Fan Speed
	2 Fan Speed
1 Stage Heat Pump, Aux Heat	1 Fan Speed
	2 Fan Speed

Wiring Diagrams Heat Pump System

1 Stage Heat Pump	1 Fan Speed
1 Stage Heat Pump, Aux Heat	1 Fan Speed
2 Stage Heat Pump	1 Fan Speed
2 Stage Heat Pump, Aux Heat	1 Fan Speed

Wiring Layout

Terminal Layout on Thermostat Board

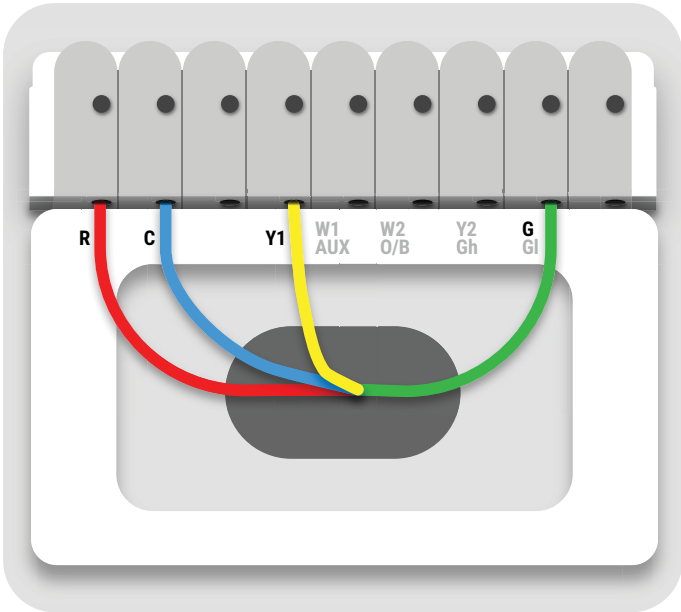


			Common/Power	Compressor/Heat	Fan
Wire Color	Terminal	Usage			
Red	R	24VAC Power / 24V (L)			
Blue	C	24VAC Common wire / 24V (N)			
Yellow	Y1	1 st stage of compressor relay			
White	W1	1 st stage of heat relay			
	AUX	Aux heat relay			
Orange	W2	2 nd stage of heat relay			
	O/B	Changeover valve relay			
Grey	Y2	2 nd stage of compressor relay			
	Gh	Fan relay, high			
Green	G	Fan relay			
	G1	Fan relay, low			

Wiring Diagrams: PTAC-Conventional System

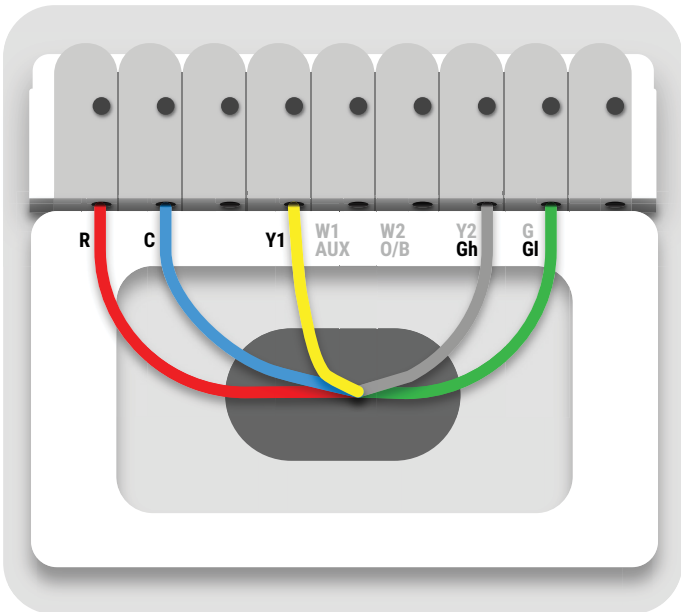
1 1 Stage Cool, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Green	G	Fan relay



2 1 Stage Cool, 2 Fan Speed

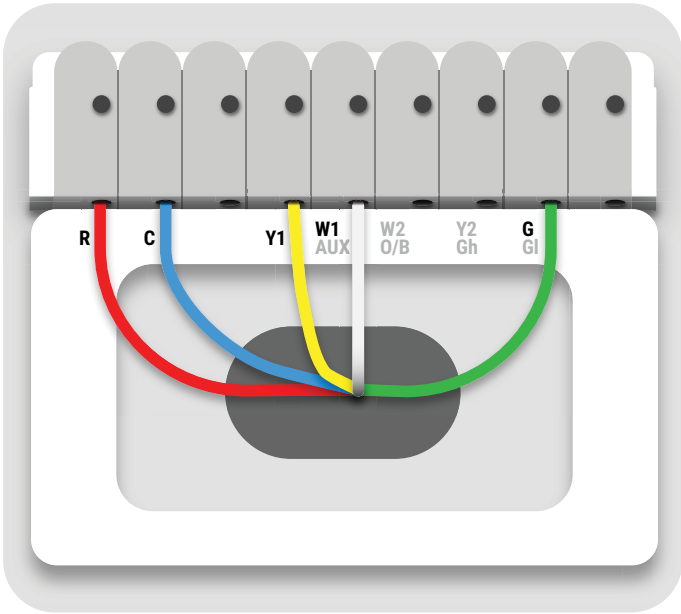
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: PTAC-Conventional System

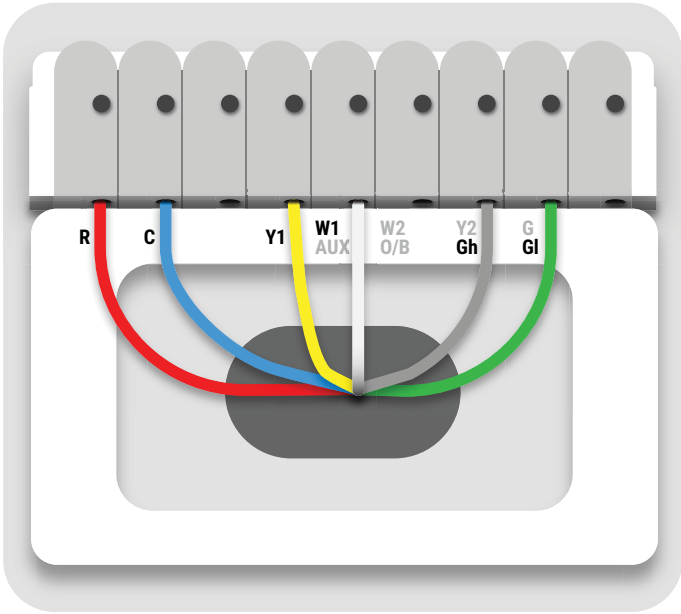
3 1 Stage Cool, 1 Stage Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	W1	1 st stage of heat relay
Green	G	Fan relay



4 1 Stage Cool, 1 Stage Heat, 2 Fan Speed

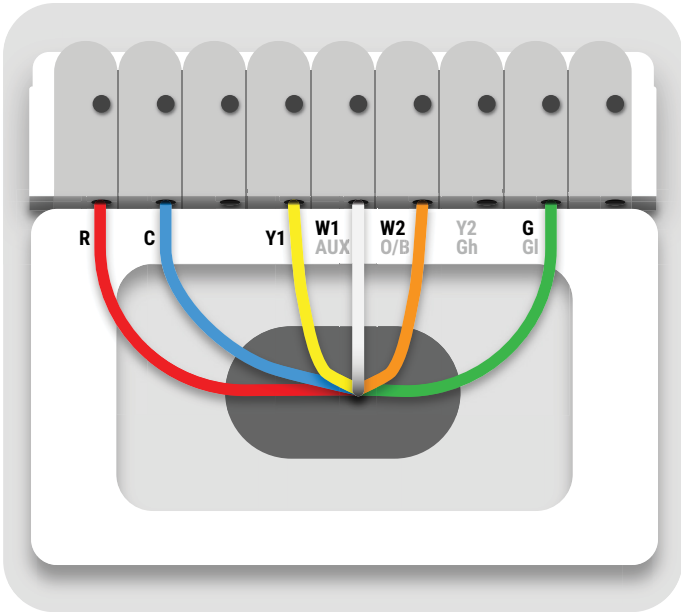
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	W1	1 st stage of heat relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: PTAC-Conventional System

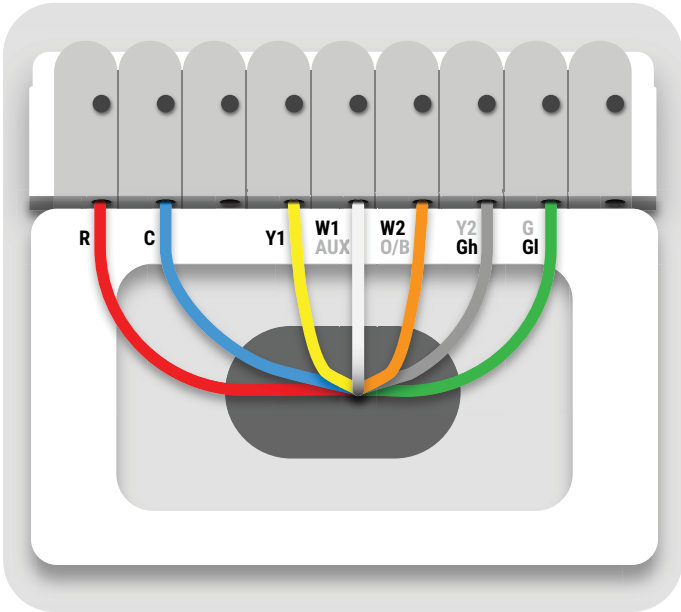
5 1 Stage Cool, 2 Stage Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Green	G	Fan relay



6 1 Stage Cool, 2 Stage Heat, 2 Fan Speed

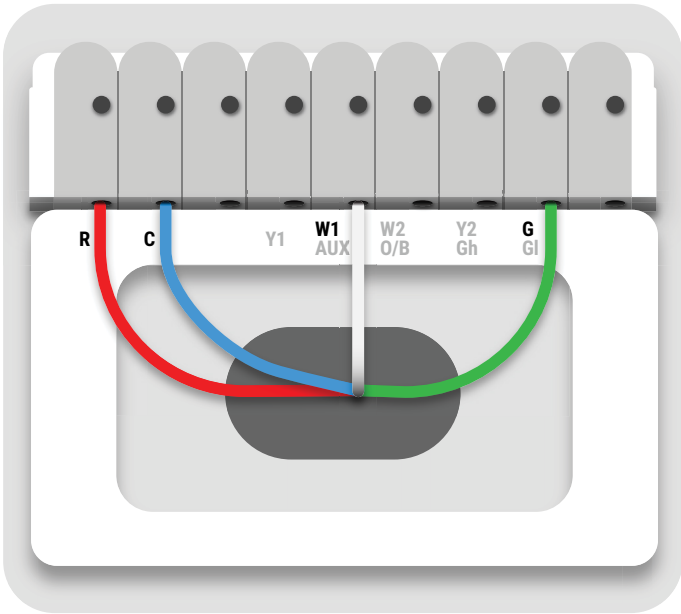
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: PTAC-Conventional System

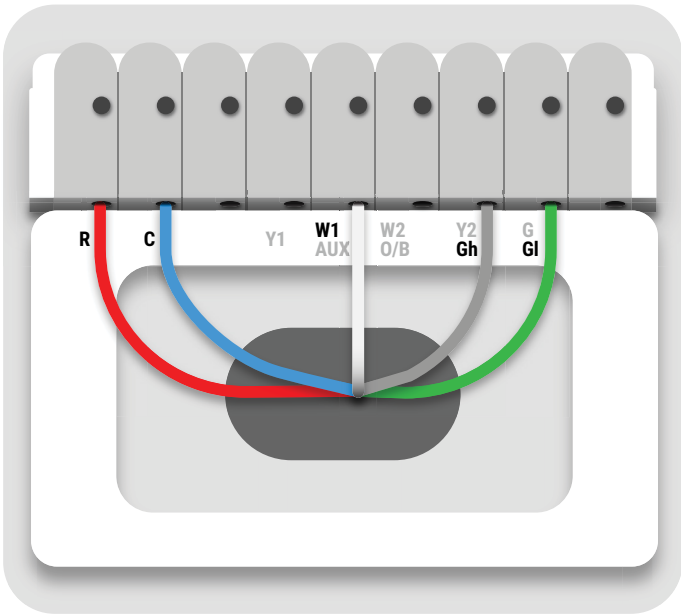
7 1 Stage Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Green	G	Fan relay



8 1 Stage Heat, 2 Fan Speed

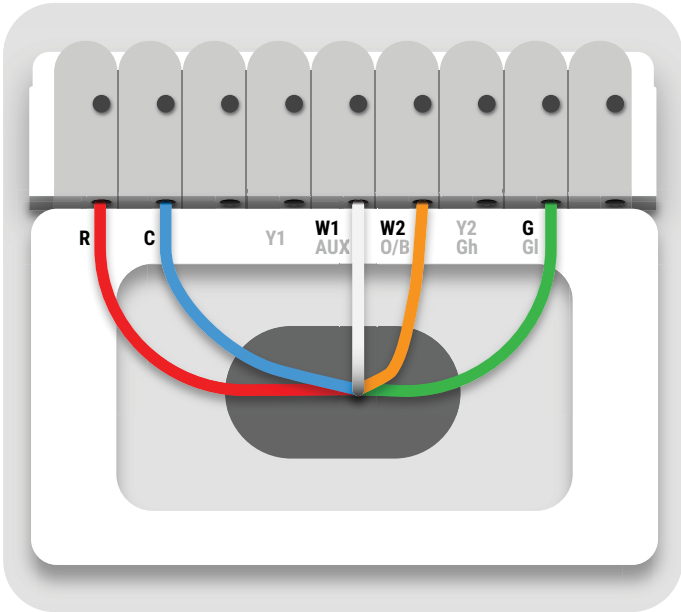
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: PTAC-Conventional System

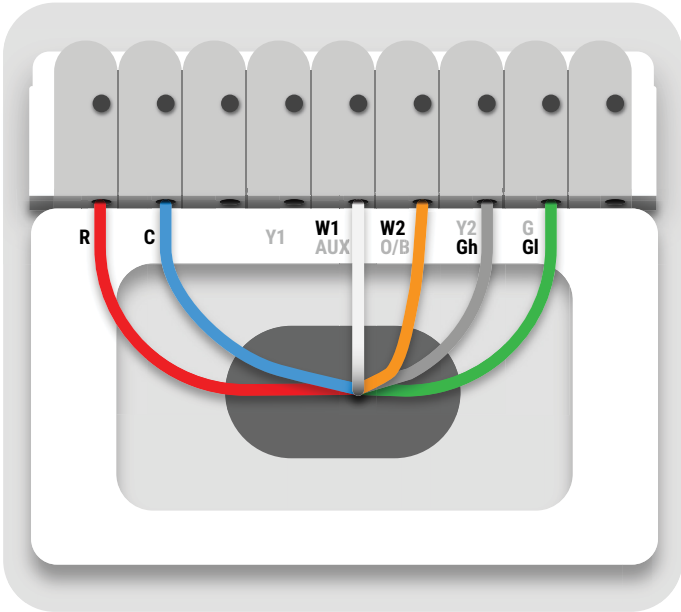
9 2 Stage Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Green	G	Fan relay



10 2 Stage Heat, 2 Fan Speed

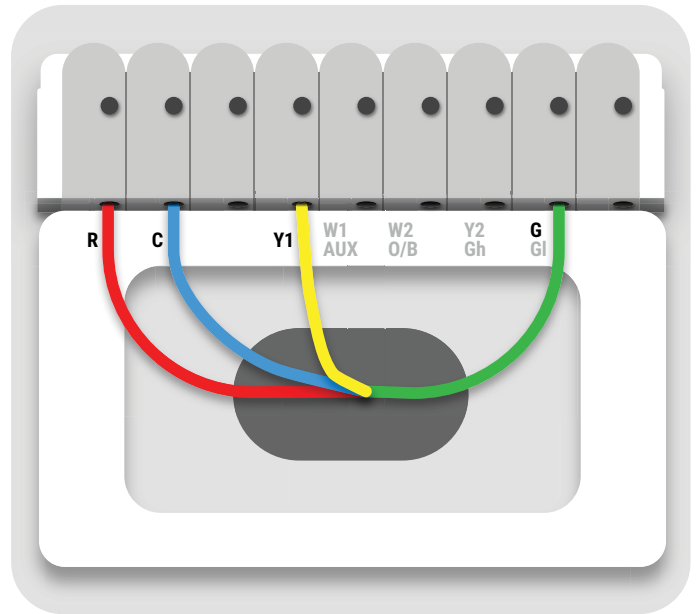
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: **Conventional System**

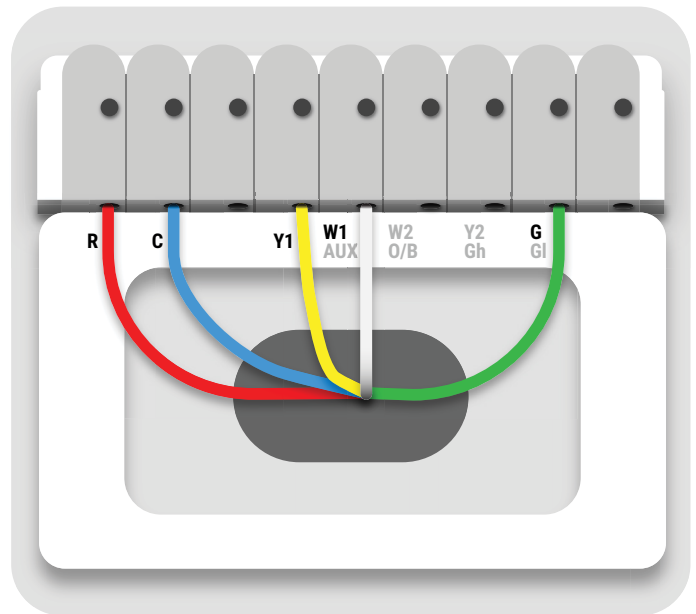
1 1 Stage Cool, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Green	G	Fan relay



2 1 Stage Cool, 1 Stage Heat, 1 Fan Speed

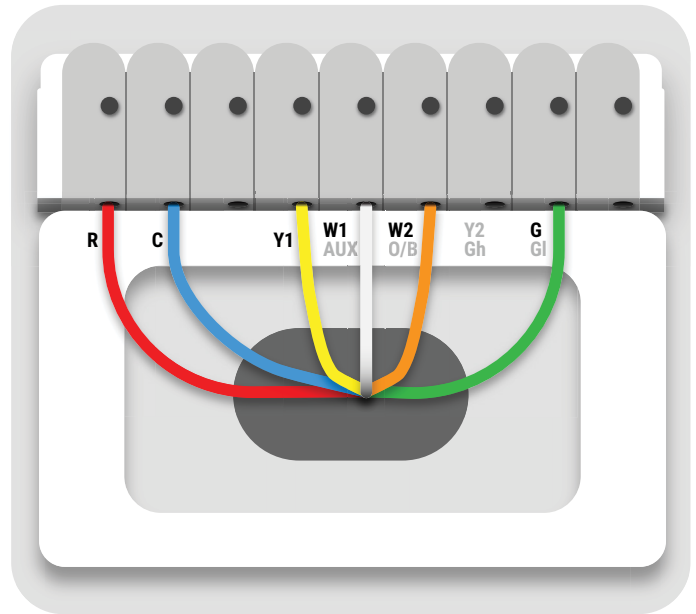
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Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
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Green	G	Fan relay



Wiring Diagrams: **Conventional System**

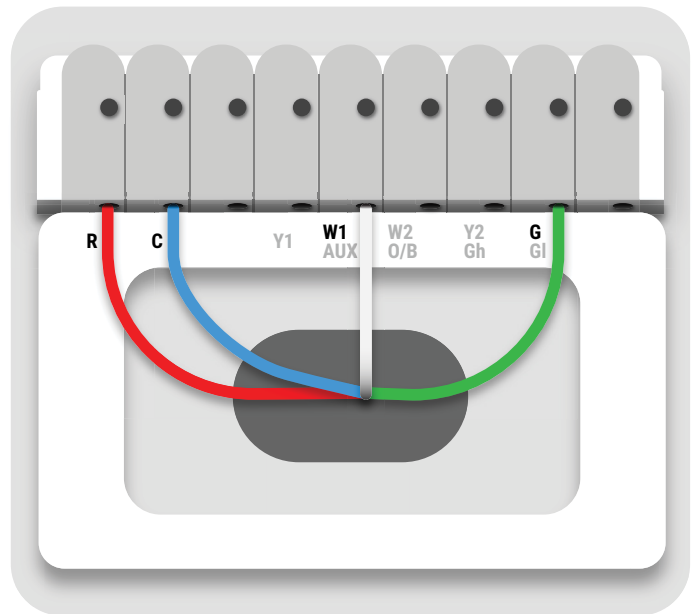
3 1 Stage Cool, 2 Stage Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Green	G	Fan relay



4 1 Stage Heat, 1 Fan Speed

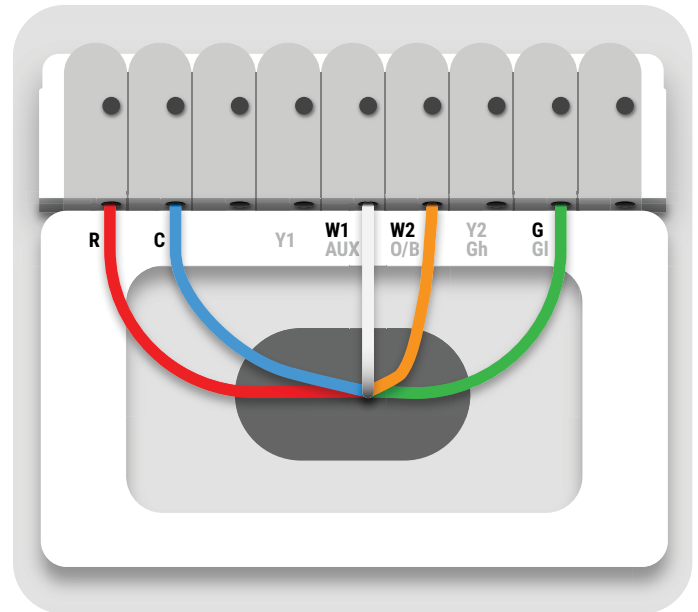
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Green	G	Fan relay



Wiring Diagrams: **Conventional System**

5 2 Stage Heat, 1 Fan Speed

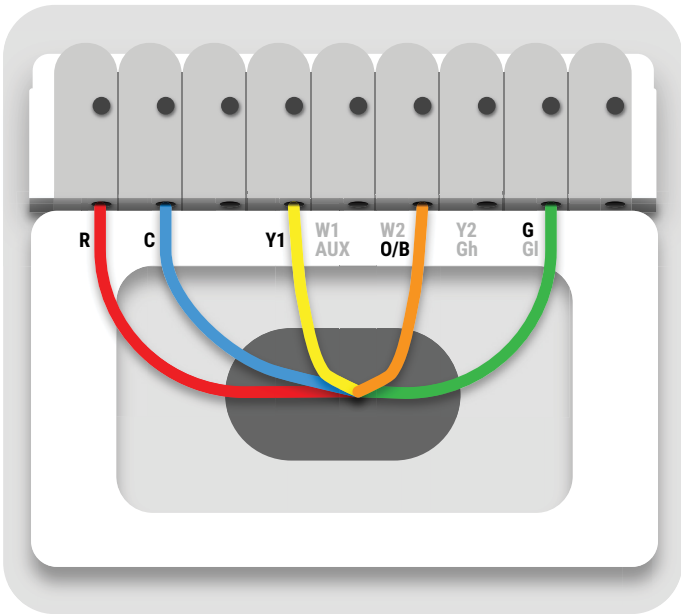
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
White	W1	1 st stage of heat relay
Orange	W2	2 nd stage of heat relay
Green	G	Fan relay



Wiring Diagrams: PTAC-Heat Pump System

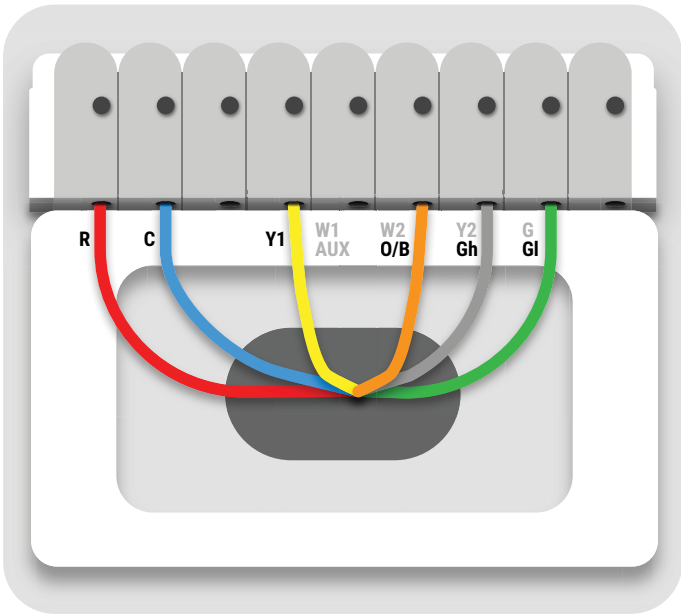
1 1 Stage Heat Pump, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Orange	O/B	Changeover valve relay
Green	G	Fan relay



2 1 Stage Heat Pump, 2 Fan Speed

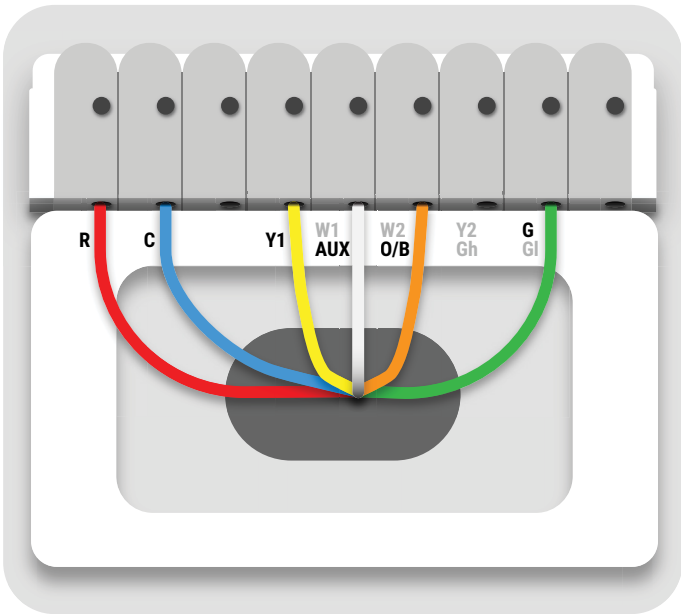
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Orange	O/B	Changeover valve relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: PTAC-Heat Pump System

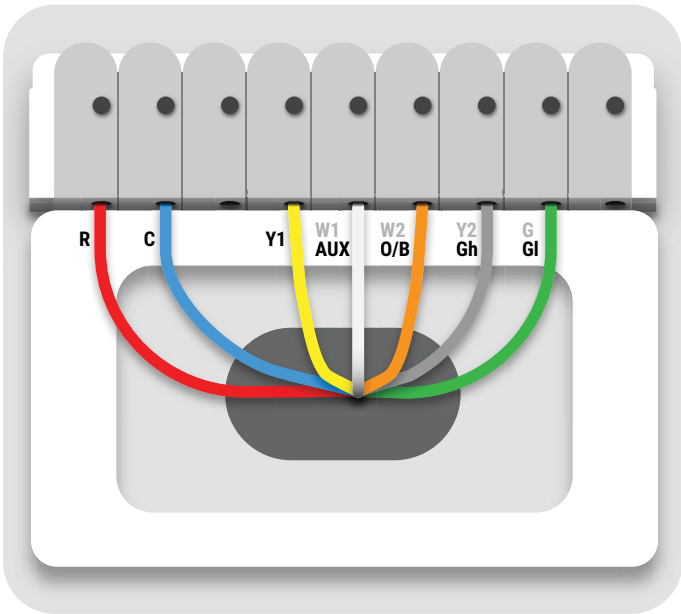
3 1 Stage Heat Pump, Aux Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	AUX	Aux heat relay
Orange	O/B	Changeover valve relay
Green	G	Fan relay



4 1 Stage Heat Pump, Aux Heat, 2 Fan Speed

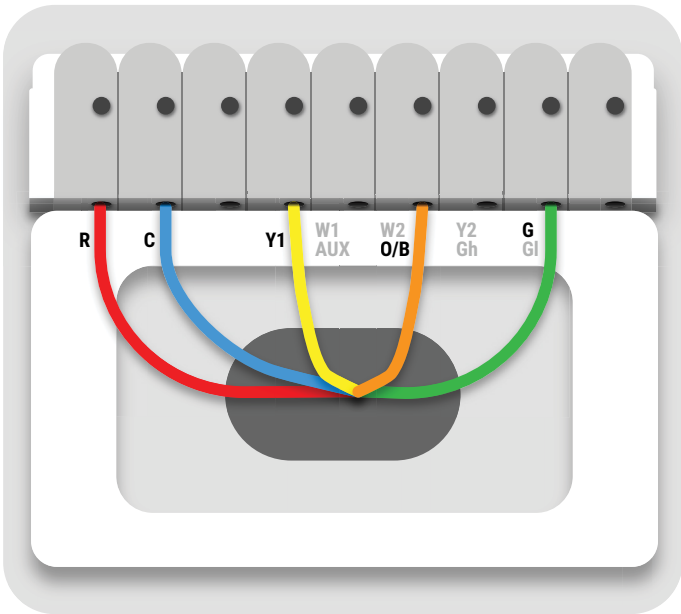
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Orange	O/B	Changeover valve relay
Grey	Gh	Fan relay, high
Green	Gl	Fan relay, low



Wiring Diagrams: Heat Pump System

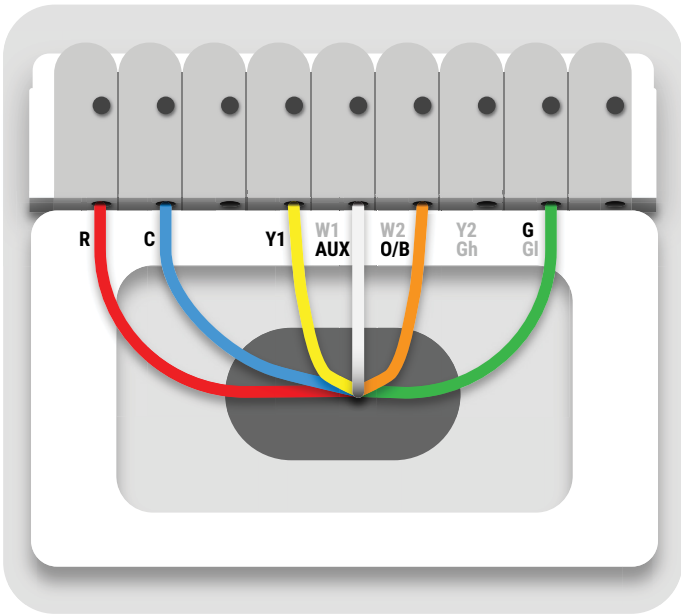
1 1 Stage Heat Pump, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
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Green	G	Fan relay



2 1 Stage Heat Pump, Aux Heat, 1 Fan Speed

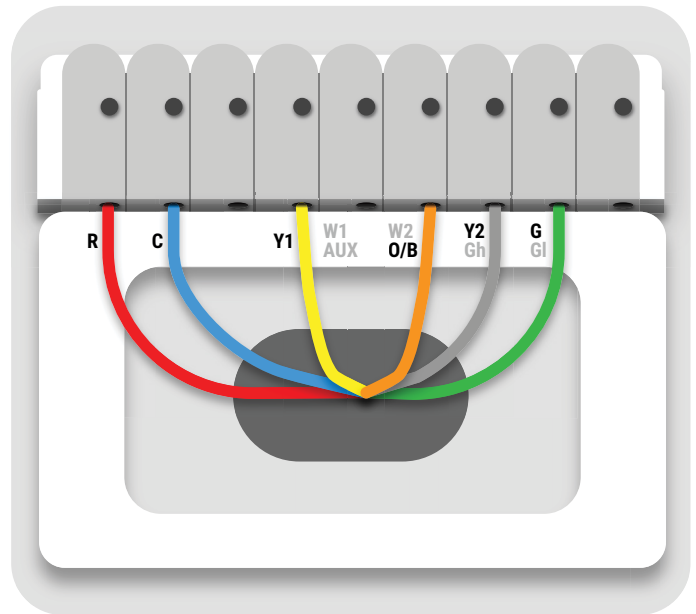
Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	AUX	Aux heat relay
Orange	O/B	Changeover valve relay
Green	G	Fan relay



Wiring Diagrams: **Heat Pump System**

3 2 Stage Heat Pump, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
Orange	O/B	Changeover valve relay
Grey	Y2	2 nd stage of compressor relay
Green	G	Fan relay



4 2 Stage Heat Pump, Aux Heat, 1 Fan Speed

Wire Color	Terminal	Usage
Red	R	24VAC Power / 24V (L)
Blue	C	24VAC Common wire / 24V (N)
Yellow	Y1	1 st stage of compressor relay
White	AUX	Aux heat relay
Orange	O/B	Changeover valve relay
Grey	Y2	2 nd stage of compressor relay
Green	G	Fan relay

