

# Heating Control HELPS

## HEATING CONTROL TERMINOLOGY

Wiring and troubleshooting always involves the control wire colors.

### ***HEAT/COOL***

24 Volt (Hot)	Red	R
24 Volt Common	Gray, Black, Blue	C, X
Stage 1 Heat	White	W or W1
Blower Relay (Hot)	Green	G
Cool	Yellow	Y
Cool, Interrupt	Yellow or Anything	Y2
Second Stage Heat	Anything	W2
Stand-by (DFC or WF)	Brown	X1, or A1

### ***HEAT PUMPS***

Compressor Run (Stage 1)	Yellow	Y (or W1)
Stage 2 Heat	White	W1 (or W2)
Reversing Valve or Switch-over Valve	Orange	O or RV
Emergency Heat	Anything	E, X2, W2
Defrost Monitor	Anything	W1 (outdoor)

NOTE: Do **not** compare or mix heating control wire colors with electrical power (national electric code) wire colors.

## FURNACE FAN CENTER

Low Voltage, Installer's Wiring Strip

*Except for 120 volt power, the only furnace electrical connection point.*

### ***MODULE TYPICALLY INCLUDES:***

24 Volt Transformer		
Hot	Red	R
Common	Blue	C
Blower Relay (internally, coil to common)	Green (Orange)	G
Gas Valve	White (Brown)	W
Dummy Wiring Point	Not used	Y

**Electro Industries, Inc.**

# THERMOSTAT TYPES

## ***BASIC HEATING, 2 wire***

R W

Application - Basic furnace, Electro-Mate heating only

## ***BASIC HEAT/COOL, 4 wire***

R W G Y

Application - Basic furnace with A/C, Electro-Mate System, electric furnace (built in staging), HPCC, WarmFlo Controller

## ***HEAT/COOL, 5 wire***

RH W RC G Y

Application - Dual 24 volt transformer, not required with Electro product, can be used by jumpering "RH" to "RC"

## ***TWO STAGE HEAT/ONE STAGE COOL***

R W G Y W2

Application - None of Electro Industries' products, do not use, typically causes problems

## ***ELECTRONIC/PROGRAMMABLE***

Typically same as 5 wire, jumper "RC" to "RH"  
Some types use R to W "soft voltage" for battery charging  
W to C requires resistance less than 500 Ohms

## ***MECHANICAL - Heat Anticipator***

Adjust to current load between R and W when stat is open  
Clamp-on amp meter, 10 turn method

## ***BASIC HEAT PUMP***

R O Y W1 G E

Manufacturer's specific may add L T C  
See manufacturer's matrix HC101

# OTHER FURNACE INTERFACE

## ***FAN/LIMIT SWITCH***

Right terminals - over heat hi-limit (200°)  
Left terminals - blower motor control

## ***2 STAGE GAS***

Fan center - W2  
Reference drawing EH009

## ***OIL BURNER PRIMARY***

Contains its own 12 or 20 volt transformer  
Must have external isolated contact - T & T

## ***MULTISPEED BLOWER***

Fan center "Y" is closed to "G"

## ***OLD FURNACE, STACK CONTROL***

Anything  
Probably T & T, treat like oil burner

Feedback up to stat "G" and out to AC unit "Y" is very predictable

Heat function (W) activated contact closure (reference drawing EH001  
page 2 or WF interface module manuals)

## ***THERMOPILE***

Special room stat only  
Millivolt contact  
Do not interface or use

**EC009**

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