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 5ØØ 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 (2ØØ°)
Left terminals - blower motor control

OIL BURNER PRIMARY

Contains its own 12 or 2Ø volt transformer
Must have external isolated contact - T & T

OLD FURNACE, STACK CONTROL

Anything
Probably T & T, treat like oil burner

THERMOPILE

Special room stat only
Millivolt contact
Do not interface or use

2 STAGE GAS

Fan center - W2
Reference drawing EHØØ9

MULTISPEED BLOWER

Fan center "Y" is closed to "G"

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

Heat function (W) activated contact closure (reference drawing EHØØ1 page 2 or WF interface module manuals)