Innovair Goldtec Wiring / Dip Switch / Optimal Refrigerant Charge Guide

Scenario	Controller	Indoor unit	Connection between Thermostat - Indoor and outdoor	Outdoor unit
Scenario 1	24V Thermostat	Innovair AHU	24V: R/C/B/Y/G/W1/W2	Innovair ODU
Scenario 2	24V Thermostat	Innovair AHU	24V: R/C/B/Y/G/W1/W2	The third-party ODU
Scenario 3	24V Thermostat	The third-party AHU / Furnace / A-COIL as a Heat-Pump	24V: R/C/B/Y/G/W1/W2	Innovair ODU
Scenario 4	24V Thermostat	The third-party AHU / a Furnace / A-COIL as a Straight Cooling	24V: R/C/Y/G/W1/W2	Innovair ODU

Note: Need to set the dip switch first before the unit power on.

Scenario 1:

24V Thermostat

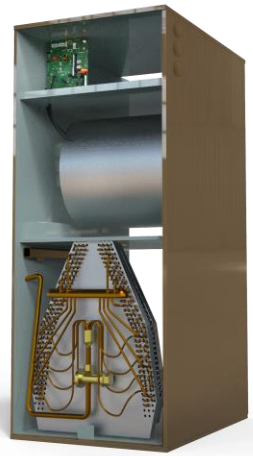
24V +

Innovair Goldtec AHU Indoor unit

24V +

Innovair Goldtec Outdoor unit

Ecobee 24V thermostat as an example

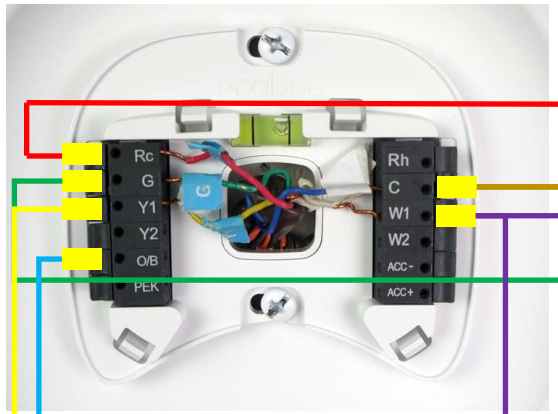


DESIGN SUPERHEAT / SUBCOOLING		
MODEL	SUPERHEAT - °F	SUBCOOLING - °F
VEA24H2R18	3 ~ 5	9 ~ 11
VEA36H2R18	5 ~ 7	7 ~ 9
VEA60H2R18	12 ~ 14	7 ~ 9

Note: Please refer to last page for final Superheat and subcooling charts.

Note: Need to set the dip switch first before the unit power on.

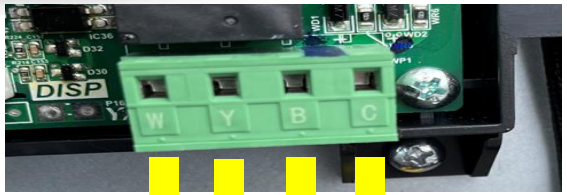
MODEL	SW1 ON THE INDOOR			FAN SPEED
	1	2	3	
DHV24H2V18 / DHV36H2V18	ON	OFF	OFF	MEDIUM
	OFF	ON	OFF	MEDIUM HIGH
	OFF	OFF	ON	HIGH
DHV60H2V18	ON	OFF	OFF	LOW
	OFF	ON	OFF	MEDIUM
	OFF	OFF	ON	HIGH



24V

R
C
W1
G
W2

(4 Wires will be connected: R/C/W1/G)



		STATIC PRESSURE - INCHES W.C.						
		0	0.1	0.16	0.2	0.3	0.4	0.5
DHV24H2V18	MEDIUM	601	528	475	466	406		
	MEDIUM HIGH	701	650	609	602	547	489	422
	HIGH	943	894	861	853	805	754	694
DHV36H2V18	MEDIUM	1077	1031	986	964	885	811	735
	MEDIUM HIGH	1268	1220	1171	1150	1115	1045	898
	HIGH	1534	1478	1427	1407	1350	1306	1238
DHV60H2V18	LOW	1379	1348	1295	1264	1254	1206	
	MEDIUM	1671	1629	1576	1535	1524	1469	1409
	HIGH	1943	1886	1828	1774	1757	1695	1628

CFM

24V

(4 Wires will be connected: W/Y/B/C)

Scenario 2：

24V Thermostat

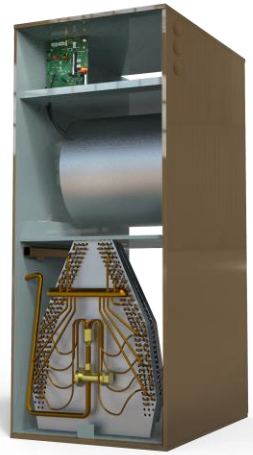
24V

Innovair Goldtec AHU Indoor unit

24V

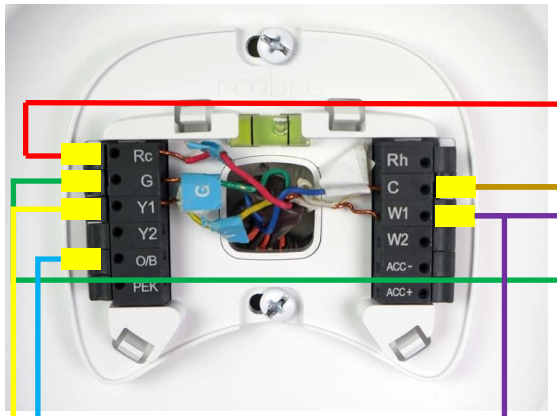
Third Party Outdoor unit

Ecobee 24V thermostat as an example



Note: Need to set the dip switch first before the unit power on.

MODEL	SW1 ON THE INDOOR			FAN SPEED
	1	2	3	
DHV24H2V18 / DHV36H2V18	ON	OFF	OFF	MEDIUM
	OFF	ON	OFF	MEDIUM HIGH
	OFF	OFF	ON	HIGH
DHV60H2V18	ON	OFF	OFF	LOW
	OFF	ON	OFF	MEDIUM
	OFF	OFF	ON	HIGH



24V

R
C
W1
G
W2

(4 Wires will be connected: R/C/W1/G)

C Y B W

24V

(4 Wires will be connected: W/Y/B/C)

		CFM	STATIC PRESSURE - INCHES W.C.						
			0	0.1	0.16	0.2	0.3	0.4	0.5
DHV24H2V18	MEDIUM		601	528	475	466	406		
	MEDIUM HIGH		701	650	609	602	547	489	422
	HIGH		943	894	861	853	805	754	694
DHV36H2V18	MEDIUM		1077	1031	986	964	885	811	735
	MEDIUM HIGH		1268	1220	1171	1150	1115	1045	898
	HIGH		1534	1478	1427	1407	1350	1306	1238
DHV60H2V18	LOW		1379	1348	1295	1264	1254	1206	
	MEDIUM		1671	1629	1576	1535	1524	1469	1409
	HIGH		1943	1886	1828	1774	1757	1695	1628

Scenario 3:

24V Thermostat

24V

The third-party Indoor unit or Furnace as a Heat-Pump

24V

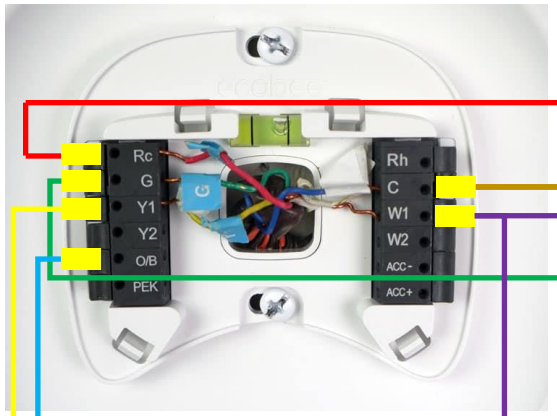
Innovair Goldtec Outdoor unit

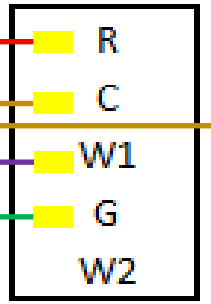
Ecobee 24V thermostat as an example

Note: If you will be using this outdoor unit as a heat-pump, make sure you have a heat-pump TXV installed on your indoor unit.

DESIGN SUPERHEAT / SUBCOOLING		
MODEL	SUPERHEAT - °F	SUBCOOLING - °F
VEA24H2R18	3 ~ 5	9 ~ 11
VEA36H2R18	5 ~ 7	7 ~ 9
VEA60H2R18	12 ~ 14	7 ~ 9

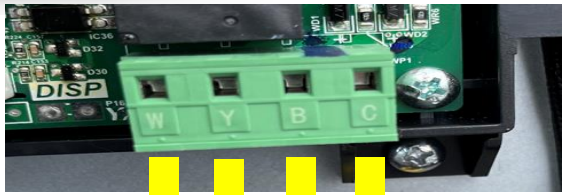
Note: Please refer to last page for final Superheat and subcooling charts.





(4 Wires will be connected: R/C/W1/G)

24V



24V

(4 Wires will be connected: W/Y/B/C)

Scenario 4:

24V Thermostat

24V

TheThe third-party Indoor unit or Furnace as Straight Cooling

24V

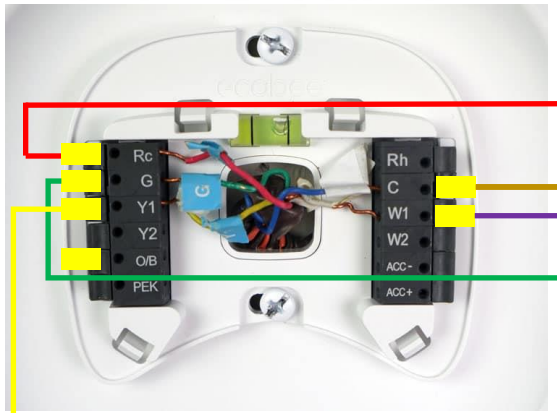
Innovair Goldtec Outdoor unit

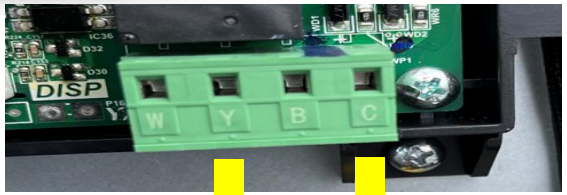
Ecobee 24V thermostat as an example

Note: If you will be using this outdoor unit as a cooling only unit, make sure you have at least a TXV installed on your indoor unit.

DESIGN SUPERHEAT / SUBCOOLING		
MODEL	SUPERHEAT - °F	SUBCOOLING - °F
VEA24H2R18	3 ~ 5	9 ~ 11
VEA36H2R18	5 ~ 7	7 ~ 9
VEA60H2R18	12 ~ 14	7 ~ 9

Note: Please refer to last page for final Superheat and subcooling charts.





R
C
W1
G
W2

(4 Wires will be connected: R/C/W1/G)

24V

24V

(2 Wires will be connected: Y/C)

Final Superheat & Subcooling Information:

DESIGN SUPERHEAT / SUBCOOLING		
MODEL	SUPERHEAT / °F	SUBCOOLING / °F
DEV24H2R18	3 ~ 5	9 ~ 11
DEV36H2R18	5 ~ 7	7 ~ 9
DEV60H2R18	12 ~ 14	7 ~ 9

Stabilize the System:
After starting the system in cooling mode short press "■" button, then "dH" and gas pipe pressure valve will appear alternately. System may take 10 minutes to ramp up. Operate the system for a minimum of twenty (20) minutes.

Note: After a twenty (20) minute stabilization period at 100% capacity (Ex: Once the compressor reaches the frequency shown in Table 1.1, maintain continuous operation while adjusting refrigerant charge. After adjusting, operate system for a minimum of five (5) minutes for system to stabilize.

Table 1.1:

Compressor Frequency in Force Mode in Cooling			
ODU Capacity	24K	36K	60K
Frequency (HZ)	56	76	66

Suction Temp (°F)	Final Superheat (°F)								
	6	8	10	12	14	16	18	20	22
	Suction Gauge Pressure (PSI)								
40	105	101	97	93	89	86	82	78	75
42	109	105	101	97	93	89	86	82	78
44	114	109	105	101	97	93	89	86	82
46	118	114	109	105	101	97	93	89	86
48	123	118	114	109	105	101	97	93	98
50	128	123	118	114	109	105	101	97	93
52	133	128	123	118	114	109	105	101	97
54	138	133	128	123	118	114	109	105	101
56	143	138	133	128	123	118	114	109	105
58	148	143	138	133	128	123	118	114	109
60	153	148	143	138	133	128	123	118	114
62	159	153	148	143	138	133	128	123	118
64	164	159	153	148	143	138	133	128	123
66	150	164	159	153	148	143	138	133	128
68	176	150	164	159	153	148	143	138	133
70	182	176	150	164	159	153	148	143	138
72	188	182	176	150	164	159	153	148	143

Liquid Temp (°F)	Final Subcooling (°F)							
	6	7	8	9	10	11	12	13
	Liquid Gauge Pressure (PSI)							
55	173	176	179	182	185	188	191	195
60	188	191	195	198	201	204	208	211
65	204	208	211	215	218	221	225	229
70	221	225	229	232	236	239	243	247
75	239	243	247	251	255	259	265	266
80	259	265	266	270	275	279	283	287
85	279	283	287	291	295	300	304	309
90	300	304	309	313	318	322	327	331
95	322	327	331	336	341	346	351	355
100	346	351	355	360	365	370	376	381
105	370	376	381	386	391	397	402	407
110	397	402	407	413	418	424	430	435
115	424	430	435	441	447	453	459	465
120	453	459	465	471	477	483	489	496
125	483	489	496	502	508	515	521	528

Additional refrigerant:

The unit comes pre-charged for installations up to 15 feet. If you need to add refrigerant, add 0.6 oz/feet.

Note: The only approved procedure for setting a valid system charge is by using the charging mode: Cooling. Outdoor temperature must be between 55°F and 120°F with Indoor temperature kept between 70°F and 80°F.

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