

# TEMPERATURE SENSOR KIT

## SPECIFICATION SHEET

### DESCRIPTION

RenewAire's duct-mounted **Temperature Sensor Kit** serves two distinct roles based on unit configuration. First, it functions as a **conditioned-air temperature sensor**. This application requires an ERV with Premium Controls and non-integrated heating and cooling. Second, it operates as a **coil-leaving temperature sensor**. This setup applies to units with dehumidification reheat configurations lacking an integrated HGRH coil.

The sensor features a hermetically sealed 304 stainless steel probe crimped onto a steel flange, providing a rugged and durable assembly for duct temperature sensing. Two integrated mounting holes accommodate #8 screws, and the flange mating surface is fully gasketed to seal off the probe and installation holes completely.



### FEATURES

- ◆ **Monolithic Encapsulation Cavity:** A 304 stainless steel, thin-wall probe with a cold-rolled, hermetically sealed end protects the sensor. This design prevents failures from high humidity, contamination, thermal shock, and vibration.
- ◆ **Ultra-Fast Thermal Response:** The flat probe end provides an expanded thermally sensitive surface area in direct thermal contact with the sensor. This configuration ensures rapid response to temperature fluctuations.
- ◆ **Rugged, Low-Profile Assembly:** A patented process attaches the probe to the flange. This method delivers a highly reliable, low-profile attachment for simple jobsite installation.

PART NUMBER	DESCRIPTION
131318	Duct Mounted Temperature Sensor, Carel Curve

COMMON SPECIFICATIONS	
Accuracy	± 0.2°C Interchangeability at 77°F (25°C)
Probe Material	1/4"/6.3mm O.D, 0.020"/0.5mm Wall 304 Stainless Steel
Flange Material	Galvanized Steel
Operating Temperature Range	40°F (-40°C)–210°F (100°C)
Ambient Temperature Range	40°F (-40°C)–160°F (70°C)

# TEMPERATURE SENSOR CURVE

Only sensors with this Carel curve should be used with this system.

°C	°F	KΩ
-50.0	-58.0	329.20
-49.0	-56.2	310.70
-48.0	-54.4	293.30
-47.0	-52.6	277.00
-46.0	-46.0	261.80
-45.0	-49.0	247.50
-44.0	-47.2	234.10
-43.0	-45.4	221.60
-42.0	-43.6	209.80
-41.0	-41.8	198.70
-40.0	-40.0	188.40
-39.0	-38.2	178.30
-38.0	-36.4	168.90
-37.0	-34.6	160.10
-36.0	-32.8	151.80
-35.0	-31.0	144.00
-34.0	-29.2	136.60
-33.0	-27.4	129.70
-32.0	-25.6	123.20
-31.0	-23.8	117.10
-30.0	-22.0	111.30
-29.0	-20.2	105.70
-28.0	-18.4	100.40
-27.0	-16.6	95.47
-26.0	-14.8	90.80
-25.0	-13.0	86.39
-24.0	-11.2	82.22
-23.0	-9.4	78.29
-22.0	-7.6	74.58
-21.0	-5.8	71.07
-20.0	-4.0	67.74
-19.0	-2.2	64.54
-18.0	-0.4	61.52
-17.0	1.4	58.66
-16.0	3.2	55.93
-15.0	5.0	53.39
-14.0	6.8	50.96
-13.0	8.6	48.65
-12.0	10.4	46.48
-11.0	12.2	44.41
-10.0	14.0	42.25

°C	°F	KΩ
-9.0	15.8	40.56
-8.0	17.6	38.76
-7.0	19.4	37.05
-6.0	21.2	35.43
-5.0	23.0	33.89
-4.0	24.8	32.43
-3.0	26.6	31.04
-2.0	28.4	29.72
-1.0	30.2	28.47
0.0	32.0	27.23
1.0	33.8	26.13
2.0	35.6	25.03
3.0	37.4	23.99
4.0	39.2	22.99
5.0	41.0	22.05
6.0	42.8	21.15
7.0	44.6	20.29
8.0	46.4	19.40
9.0	48.2	18.70
10.0	50.0	17.96
11.0	51.8	17.24
12.0	53.6	16.55
13.0	55.4	15.90
14.0	57.2	15.28
15.0	59.0	14.68
16.0	60.8	14.12
17.0	62.6	13.57
18.0	64.4	13.06
19.0	66.2	12.56
20.0	68.0	12.09
21.0	69.8	11.63
22.0	71.6	11.20
23.0	73.4	10.78
24.0	75.2	10.38
25.0	77.0	10.00
26.0	78.8	9.63
27.0	80.6	9.28
28.0	82.4	8.94
29.0	84.2	8.62
30.0	86.0	8.31
31.0	87.8	8.01

°C	°F	KΩ
32.0	89.6	7.72
33.0	91.4	7.45
34.0	93.2	7.19
35.0	95.0	6.94
36.0	96.8	6.69
37.0	98.6	6.46
38.0	100.4	6.24
39.0	102.2	6.03
40.0	104.0	5.82
41.0	105.8	5.63
42.0	107.6	5.43
43.0	109.4	5.25
44.0	111.2	5.08
45.0	113.0	4.91
46.0	114.8	4.74
47.0	116.6	4.59
48.0	118.4	4.44
49.0	120.2	4.30
50.0	122.0	4.16
51.0	123.8	4.02
52.0	125.6	3.90
53.0	127.4	3.77
54.0	129.2	3.65
55.0	131.0	3.53
56.0	132.8	3.42
57.0	134.6	3.31
58.0	136.4	3.21
59.0	138.2	3.11
60.0	140.0	3.02
61.0	141.8	2.92
62.0	143.6	2.83
63.0	145.4	2.75
64.0	147.2	2.66
65.0	149.0	2.58
66.0	150.8	2.51
67.0	152.6	2.43
68.0	154.4	2.36
69.0	156.2	2.29
70.0	158.0	2.22
71.0	159.8	2.16
72.0	161.6	2.10

°C	°F	KΩ
73.0	163.4	2.04
74.0	165.2	1.98
75.0	167.0	1.92
76.0	168.8	1.87
77.0	170.6	1.81
78.0	172.4	1.76
79.0	174.2	1.71
80.0	176.0	1.66
81.0	177.8	1.62
82.0	179.6	1.57
83.0	181.4	1.53
84.0	183.2	1.49
85.0	185.0	1.45
86.0	186.8	1.41
87.0	188.6	1.37
88.0	190.4	1.33
89.0	192.2	1.30
90.0	194.0	1.26
91.0	195.8	1.23
92.0	197.6	1.20
93.0	199.4	1.16
94.0	201.2	1.13
95.0	203.0	1.10
96.0	204.8	1.08
97.0	206.6	1.05
98.0	208.4	1.02
99.0	210.2	0.99
100.0	212.0	0.97
101.0	213.8	0.94
102.0	215.6	0.92
103.0	217.4	0.90
104.0	219.2	0.87
105.0	221.0	0.85
106.0	222.8	0.83
107.0	224.6	0.81
108.0	226.4	0.79
109.0	228.2	0.77
110.0	230.0	0.75