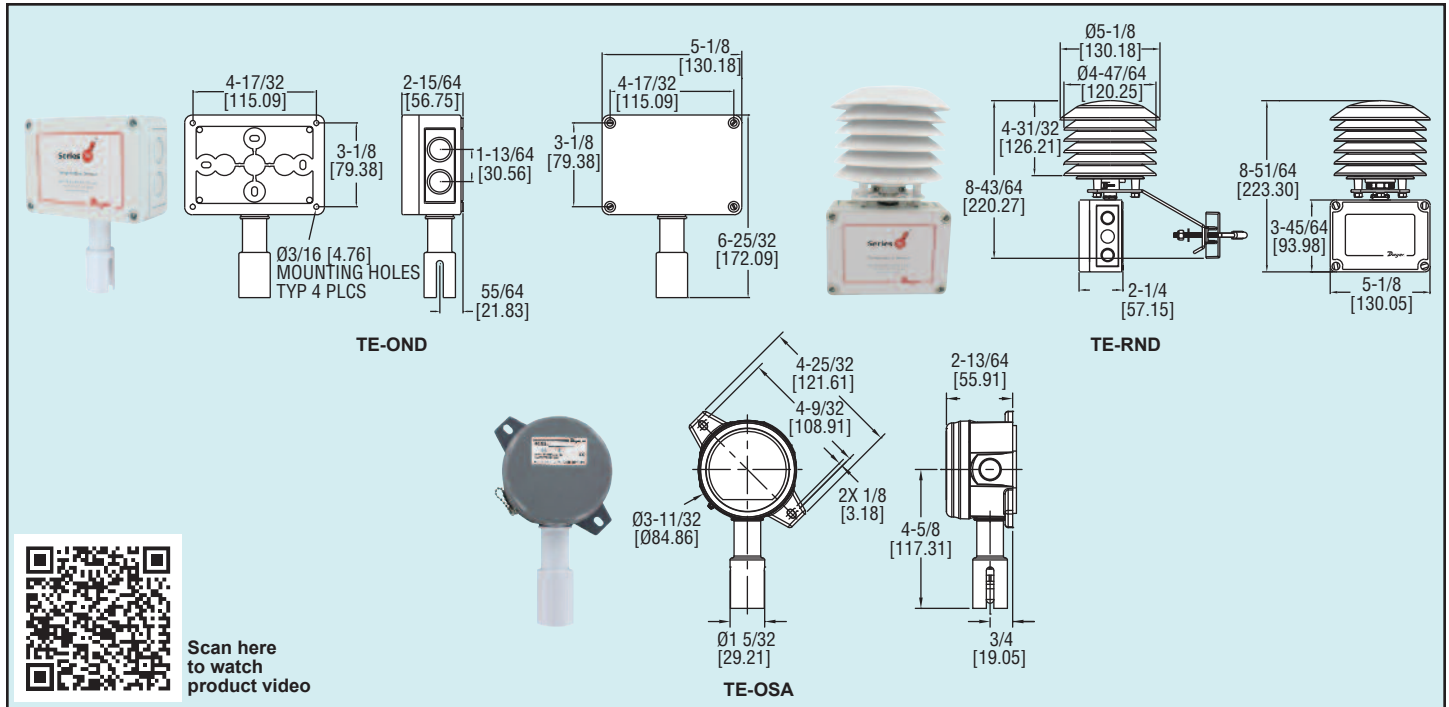




Series  
TE-OND/  
TE-RND/  
TE-OSA

# Outdoor Temperature Sensors

Protection Against Radiated Heat, Weatherproof Housing



The Series TE-OND/TE-RND/TE-OSA Outdoor Air Temperature Sensors are offered in two different configurations to increase measurement accuracy by reducing radiated heat effects. For applications where the north side of the building is accessible, the TE-OND/TE-OSA can be used to protect against low levels of radiated heat. If the sensor must be mounted in direct sunlight or a more precise measurement is required, our six plate radiation shield mounts over the temperature probe. The TE-RND radiation shield models can be surface or pipe mounted. All models include removeable terminal blocks to simplify wiring.

### SPECIFICATIONS

#### Accuracy:

Thermistor temperature sensor:  $\pm 0.22^{\circ}\text{C}$  @  $25^{\circ}\text{C}$  ( $\pm 0.4^{\circ}\text{F}$  @  $77^{\circ}\text{F}$ );  
RTD temperature sensor: DIN class A:  $\pm 0.15^{\circ}\text{C}$  @  $0^{\circ}\text{C}$  ( $\pm 0.28^{\circ}\text{F}$  @  $32^{\circ}\text{F}$ ).

**Temperature Limits:** Operating:  $-40$  to  $302^{\circ}\text{F}$  ( $-40$  to  $150^{\circ}\text{C}$ ).

**Sensor Curves:** See Resistance vs. Temperature Table.

**Housing Material:** Polycarbonate.

**Enclosure Rating:** TE-OND/TE-RND: NEMA 4X (IP65); TE-OSA: NEMA 3R (IP54).

**Weight:** 0.65 lb (295 g).

### Resistance vs Temperature Table

Temperature		Resistance Curves ( $\Omega$ )					
$^{\circ}\text{C}$	$^{\circ}\text{F}$	A Green/ Green	B Red/ Green	C Black/ Black	D Yellow/ Yellow	E Red/ Red	F Green/ Blue
-55	-67.0	607800.00	963849.00	289154.70	78.32	783.2	2394000.00
-50	-58.0	441200.00	670166.00	201049.80	80.31	803.1	1646200.00
-45	-49.0	323600.00	471985.00	141595.50	82.29	822.9	1145800.00
-40	-40.0	239700.00	336479.00	100943.70	84.27	842.7	806800.00
-35	-31.0	179200.00	242681.00	72804.30	86.25	862.5	574400.00
-30	-22.0	135200.00	176974.00	53092.20	88.22	882.2	413400.00
-25	-13.0	102900.00	130421.00	39126.30	90.19	901.9	300400.00
-20	-4.0	78910.00	97081.00	29124.30	92.16	921.6	220600.00
-15	5.0	61020.00	72957.00	21887.10	94.12	941.2	163500.00
-10	14.0	47540.00	55329.00	16598.70	96.09	960.9	122280.00
-5	23.0	37310.00	42327.00	12698.10	98.04	980.4	92240.00
0	32.0	29490.00	32650.00	9795.00	100.00	1000.0	70160.00
5	41.0	23460.00	25392.00	7617.60	101.95	1019.5	53780.00
10	50.0	18780.00	19901.00	5970.30	103.90	1039.0	41560.00
15	59.0	15130.00	15712.00	4713.60	105.85	1058.5	32340.00
20	68.0	12260.00	12493.00	3747.90	107.79	1077.9	25360.00
25	77.0	10000.00	10000.00	3000.00	109.74	1097.4	20000.00
30	86.0	8194.00	8057.00	2417.10	111.67	1116.7	15892.00
35	95.0	6752.00	6531.00	1959.30	113.61	1136.1	12704.00
40	104.0	5592.00	5326.00	1597.80	115.54	1155.4	10216.00
45	113.0	4655.00	4368.00	1310.40	117.47	1174.7	8264.00
50	122.0	3893.00	3602.00	1080.60	119.40	1194.0	6722.00
55	131.0	3271.00	2986.00	895.80	121.32	1213.2	5498.00
60	140.0	2760.00	2488.00	746.40	123.24	1232.4	4520.00
65	149.0	2339.00	2083.00	624.90	125.16	1251.6	3734.00
70	158.0	1990.00	1752.00	525.60	127.08	1270.8	3100.00
75	167.0	1700.00	1480.00	444.00	128.99	1289.9	2586.00
80	176.0	1458.00	1255.00	376.50	130.90	1309.0	2166.00
85	185.0	1255.00	1070.00	321.00	132.80	1328.0	1822.60
90	194.0	1084.00	915.50	274.65	134.71	1347.1	1540.00
95	203.0	939.30	786.60	235.98	136.61	1366.1	1306.40
100	212.0	816.80	678.60	203.58	138.51	1385.1	1112.60
105	221.0	712.60	587.60	176.28	140.40	1404.0	951.00
110	230.0	623.60	510.60	153.18	142.29	1422.9	815.80
115	239.0	547.30	445.30	133.59	144.18	1441.8	702.20
120	248.0	481.80	389.60	116.88	146.07	1460.7	606.40
125	257.0	425.30	341.90	102.57	147.95	1479.5	525.60
130	266.0	376.40	301.00	90.30	149.83	1498.3	N/A
135	275.0	334.00	265.80	79.74	151.71	1517.1	N/A
140	284.0	297.20	235.30	70.59	153.58	1535.8	N/A
145	293.0	265.10	208.90	62.67	155.46	1554.6	N/A
150	302.0	237.00	186.10	55.83	157.33	1573.3	N/A

Model	Sensor Type
TE-OND-A	10K $\Omega$ type III thermistor
TE-OND-B	10K $\Omega$ type II thermistor
TE-OND-C	3K $\Omega$ thermistor
TE-OND-D	PT100 $\Omega$ RTD
TE-OND-E	PT1000 $\Omega$ RTD
TE-OND-F	20K $\Omega$ thermistor
TE-OND-Q	10K $\Omega$ type III thermistor with 11K $\Omega$ shunt
TE-RND-A	10K $\Omega$ type III thermistor
TE-RND-B	10K $\Omega$ type II thermistor
TE-RND-C	3K $\Omega$ thermistor
TE-RND-D	PT100 $\Omega$ RTD
TE-RND-E	PT1000 $\Omega$ RTD
TE-RND-F	20K $\Omega$ thermistor
TE-RND-Q	10K $\Omega$ type III thermistor with 11K $\Omega$ shunt
TE-OSA-A	10K $\Omega$ type III thermistor
TE-OSA-B	10K $\Omega$ type II thermistor
TE-OSA-C	3K $\Omega$ thermistor
TE-OSA-D	PT100 $\Omega$ RTD
TE-OSA-E	PT1000 $\Omega$ RTD
TE-OSA-F	20K $\Omega$ thermistor
TE-OSA-Q	10K $\Omega$ type III thermistor with 11K $\Omega$ shunt

TEMPERATURE

Temperature Sensors