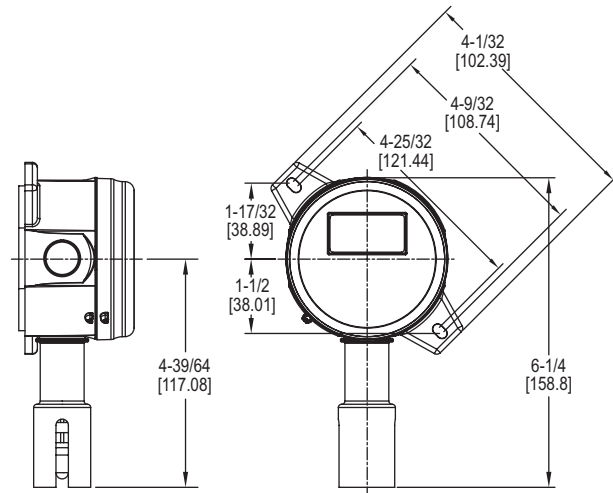




## Series TE-OSA Outside Air Temperature Sensor

### Specifications - Installation and Operating Instructions



The **SERIES TE-OSA** Outside Air Temperature Sensor is designed to measure the ambient air temperature on top of buildings and air handler units. The quick 1/4 turn lid is captured by a chain to prevent the lid from being lost during installation and reduces installation time by eliminating the need for tools. The internal terminal block gives a reliable electrical connection and eliminates the need for wiring nuts. The Series TE-OSA meets NEMA 3R requirements and is designed to be mounted on the north side of the building to avoid radiated heat effects.

#### SPECIFICATIONS

**Accuracy:** Thermistor temperature sensor:  $\pm 0.2^{\circ}\text{C}$  @  $25^{\circ}\text{C}$  ( $\pm 0.36^{\circ}\text{F}$  @  $77^{\circ}\text{F}$ ); 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  $150^{\circ}\text{C}$ ).

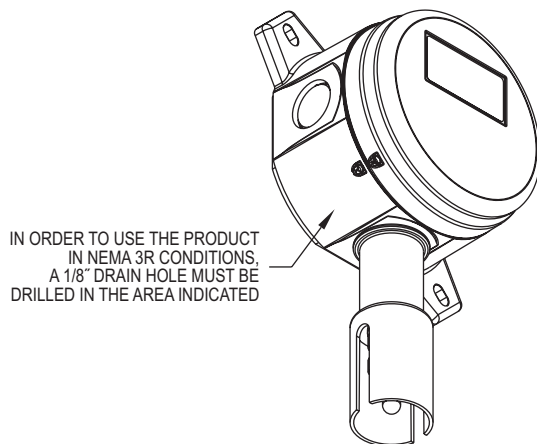
**Housing Material:** Polycarbonate.

**Enclosure Rating:** NEMA 3R (IP54).

**Weight:** 4.2 oz.

#### NOTICE

When mounting in the vertical plane, a drain hole must be drilled as shown in Figure A to meet NEMA 3 Ratings.



IN ORDER TO USE THE PRODUCT  
IN NEMA 3R CONDITIONS,  
A 1/8" DRAIN HOLE MUST BE  
DRILLED IN THE AREA INDICATED

Figure A

MODEL CHART	
Model	Sensor Type
TE-OSA-A	10k Ω type III thermistor
TE-OSA-B	10k Ω type II thermistor
TE-OSA-C	3k Ω thermistor
TE-OSA-D	PT100 Ω RTD
TE-OSA-E	PT1000 Ω RTD
TE-OSA-F	20k Ω thermistor
TE-OSA-Q	10k Ω type III thermistor with 11k Ω shunt

RESISTANCE VS TEMPERATURE TABLE							
Temperature		Resistance Curves (Ω)					
°C	°F	A - 10k Ω type III thermistor	B - 10k Ω type II thermistor	C - 3k Ω thermistor	D - PT100 Ω RTD	E - PT1000 Ω RTD	F - 20k Ω thermistor
		Green/Green	Red/Green	Black/Black	Yellow/Yellow	Red/Red	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