

TEMPERATURE SENSOR

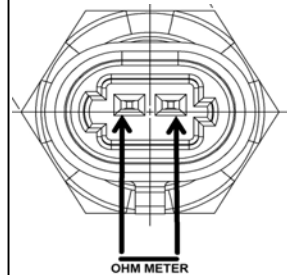
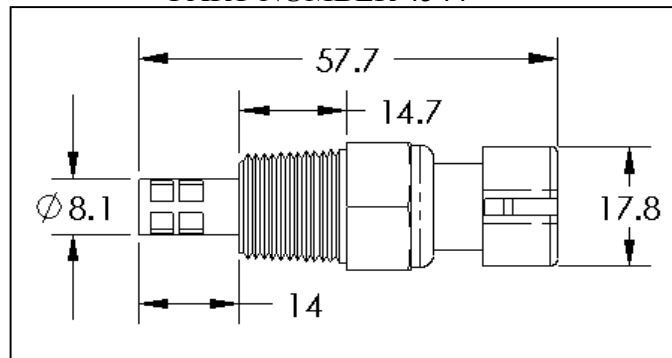
PRODUCT DATA

MANIFOLD AIR TEMPERATURE SENSOR

PART NUMBER 4544

FEATURES:

- Robust Design
- Thermistor Technology
- 100% Calibration Certified



THERMAL & ELECTRICAL PROPERTIES

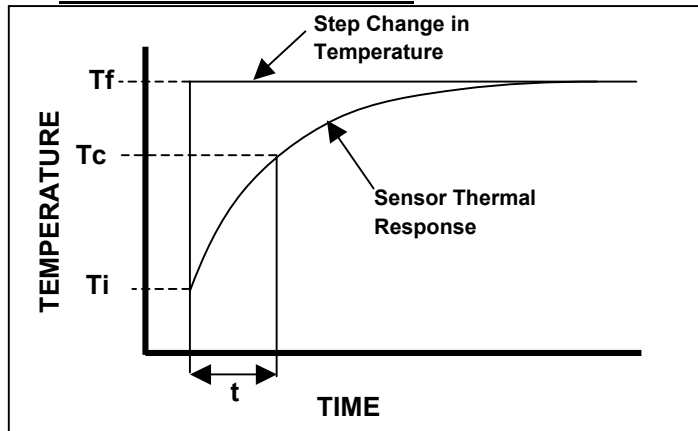
Typical Voltage Supply: **5V DC**
Operating Temperature: **-40 C to 135 C**
Resistive Range (Ohms): **See Table**
-20C R 28146
+25C R 2752
+100C R 175

Thermal Time Constant: ** < 15 sec

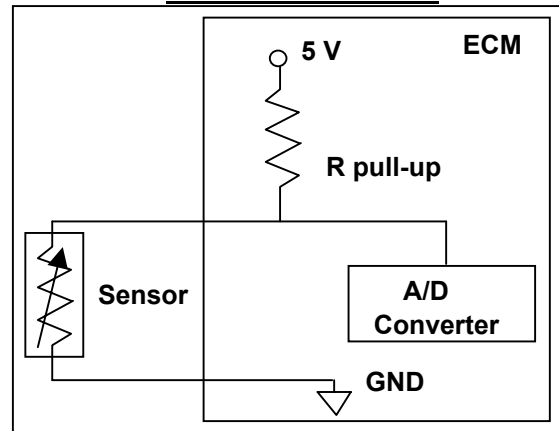
MECHANICAL PROPERTIES

Sensor Body Material: **Brass**
Connector: **PBT 30% GF**
Hex Size: **18.90 mm (3/4")**
Thread Size: **3/8" - 18 NPTF**
Maximum Pressure: **250 kPa (36 psig)**
Installation Torque: **20 Nm**

THERMAL TIME CONSTANT



CIRCUIT SCHEMATIC



* The ratio, at a specified ambient temperature, of the change in the power dissipation of the sensor to the resultant temperature change of the thermistor. Test medium: dry air stream flowing at 5000 mm/sec.

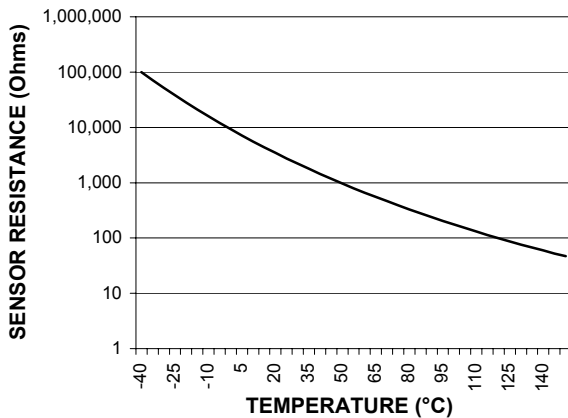
** The time required for the sensor to achieve 63.2% of its steady state value when subjected to a step change in ambient temperature [$T_c = (T_f - T_i) * 63.2\% + T_i$]. Test medium: dry air stream flowing at 5000 mm/sec.

TEMPERATURE SENSOR

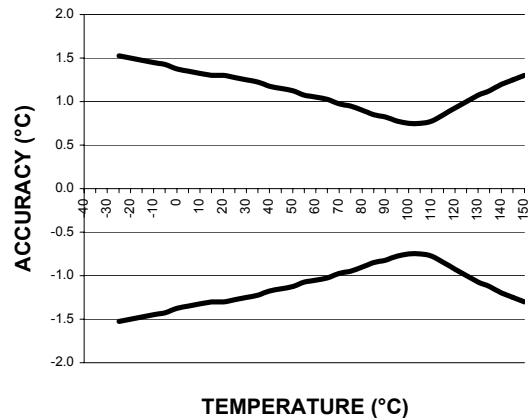
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UNLOADED RESISTANCE vs TEMPERATURE CHARACTERISTIC CHART



TEMPERATURE ACCURACY CHART



Note: Temperature Sensor Calibration Resistance Guaranteed by 100% Automated Calibration Certification.

Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)	Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)	Temp (°C)	Res (Ohms)	Res (±%)	Ref Acc (±°C)
-40	99326	10.46	1.60	25	2752	5.56	1.20	90	238.1	2.35	0.80
-35	71332	10.00	1.50	30	2205	5.28	1.20	95	203.9	2.13	0.70
-30	51791	9.55	1.50	35	1778	5.00	1.20	100	175.3	2.00	0.70
-25	37994	9.11	1.50	40	1443	4.72	1.10	105	151.3	2.24	0.80
-20	28146	8.67	1.50	45	1177	4.45	1.10	110	131.0	2.45	0.90
-15	21044	8.25	1.40	50	965	4.18	1.10	115	113.9	2.63	1.00
-10	15873	7.83	1.40	55	796	3.94	1.00	120	99.4	2.79	1.00
-5	12073	7.42	1.40	60	660	3.71	1.00	125	87.0	2.92	1.10
0	9256	7.02	1.30	65	551	3.47	1.00	130	76.4	3.03	1.20
5	7153	6.72	1.30	70	462	3.24	0.90	135	67.3	3.11	1.20
10	5572	6.43	1.30	75	389	3.01	0.90	140	59.4	3.18	1.30
15	4373	6.14	1.30	80	329	2.79	0.80	145	52.6	3.22	1.30
20	3457	5.85	1.30	85	279	2.57	0.80	150	46.7	3.24	1.40

Important: The values above are for the unloaded thermistor, as shipped from Omnitek, and does not reflect the effects of application system errors and aging.

Notes:

Due to self-heating effects of the thermistor, the resistance is dependant upon the application
 Since thermistors are "continuous function devices", resistance vs temperature data is available for numbers beyond those specified above.

For more information contact:

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