

# TEMPERATURE SENSOR

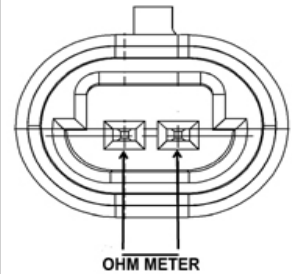
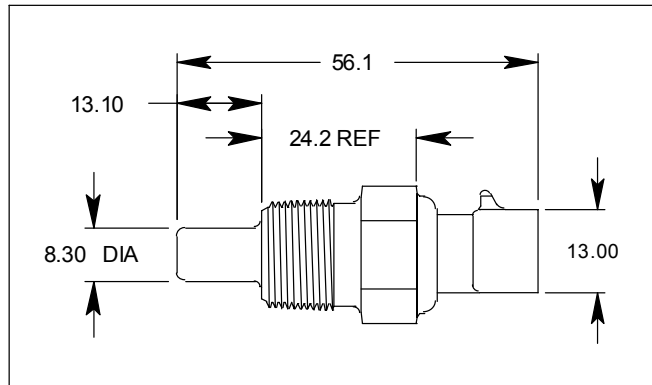
## PRODUCT DATA

### COOLANT TEMPERATURE SENSOR

PART NUMBER: 4914

**FEATURES:**

- Robust Design
- Thermistor Technology
- 100% Calibration Certified



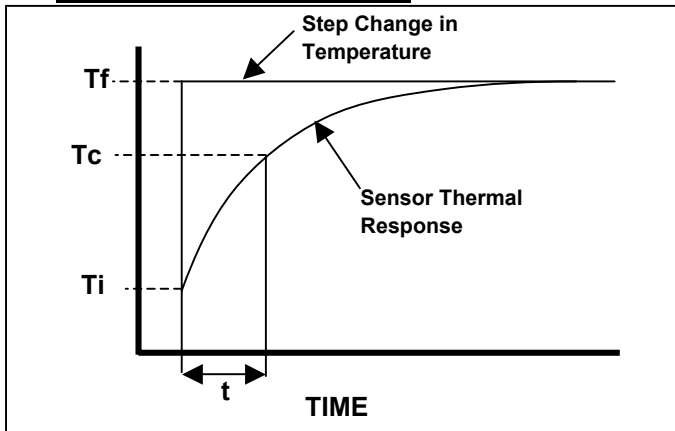
**THERMAL & ELECTRICAL PROPERTIES**

Typical Voltage Supply: **5V DC**  
 Operating Temperature: **-40 C to 135 C**  
 Resistive Range (Ohms): **See Table**  
 -20C R 28582  
 +25C R 2795  
 +100C R 178  
 Dissipation Constant: \* **24 mW/°C**  
 Thermal Time Constant: \*\* **17 to 27 seconds**

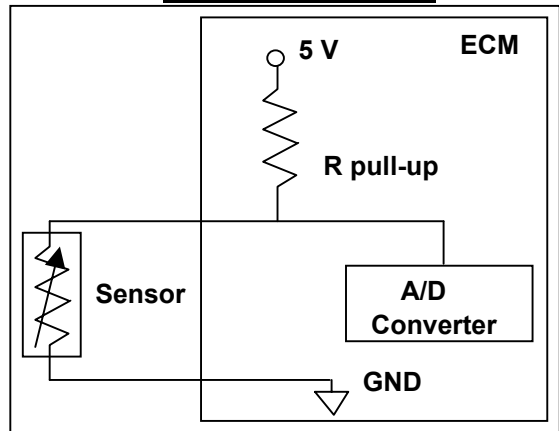
**MECHANICAL PROPERTIES**

Sensor Body Material: **Brass**  
 Connector: **PBT 30% GF**  
 Hex Size: **18.90 mm (3/4")**  
 Thread Size: **3/8" - 18 NPTF**  
 Maximum Pressure: **730 kPa (105 psig)**  
 Installation Torque: **20 Nm**

**THERMAL TIME CONSTANT**



**CIRCUIT SCHEMATIC**



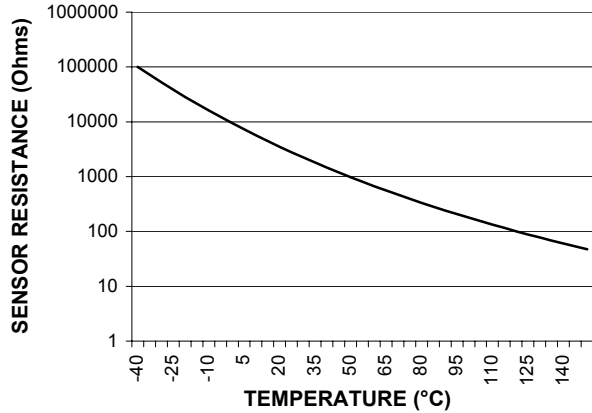
\* The ratio, at a specified ambient temperature, of the change in the power dissipation of the sensor to the resultant temperature change of the thermistor. Test medium: silicone oil

\*\* 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: silicone oil.

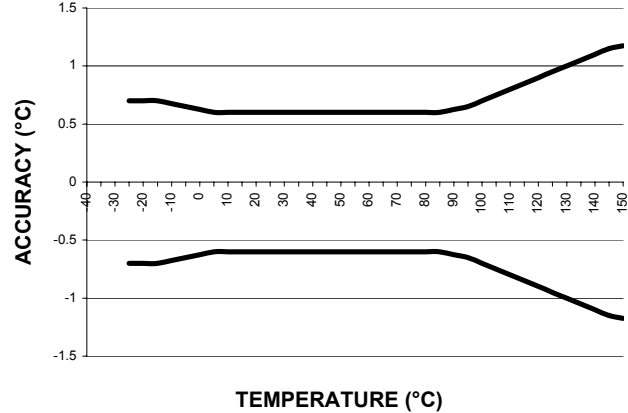
# TEMPERATURE SENSOR PRODUCT DATA

PART NUMBER: 4914

**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	100865	4.87	0.70	25	2795	2.50	0.60	90	241.8	2.10	0.70
-35	72437	4.64	0.70	30	2240	2.45	0.60	95	207.1	2.21	0.70
-30	52594	4.43	0.70	35	1806	2.40	0.60	100	178.0	2.31	0.80
-25	38583	4.21	0.70	40	1465	2.36	0.60	105	153.6	2.42	0.80
-20	28582	4.00	0.70	45	1195	2.31	0.60	110	133.1	2.52	0.90
-15	21371	3.80	0.70	50	980	2.27	0.60	115	115.7	2.61	0.90
-10	16120	3.60	0.60	55	809	2.23	0.60	120	100.9	2.68	1.00
-5	12261	3.40	0.60	60	671	2.19	0.60	125	88.3	2.75	1.00
0	9399	3.21	0.60	65	559	2.15	0.60	130	77.5	2.80	1.10
5	7263	3.06	0.60	70	469	2.11	0.60	135	68.3	2.84	1.10
10	5658	2.92	0.60	75	395	2.07	0.60	140	60.3	2.87	1.20
15	4441	2.78	0.60	80	334	2.04	0.60	145	53.4	2.89	1.20
20	3511	2.64	0.60	85	283	2.00	0.60	150	47.5	2.90	1.20

**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:

Omnitek Engineering, Corp.  
1945 S. Rancho Santa Fe Rd  
San Marcos, CA 92078

Phone: (760) 591-0889  
Fax: (760) 591-0880  
www.omnitekcorp.com