Discharge Air Sensor

The discharge air temperature sensor extends through the vestibule panel, into the heat exchanger section. The sensor monitors the temperature of the air being supplied to the structure. If the sensor detects discharge air temperature out of range, the furnace control will increase the speed of the blower motor in order to try to increase the amount of airflow being delivered, thereby reducing the discharge air temperature. If the blower motor is already operating at full speed, the control will reduce the firing rate to reduce the air temperature. If the supply air temperature is too high, even at the minimum input rate (35% for 97% - 98% AFUE models, 50% for 80% AFUE models), the control will de-energize the gas valve.

The sensor is a Negative Temperature Coefficient thermistor. This means that as the measured temperature goes up, the resistance value of the sensor goes down.

The following temperature and resistance chart may be used to determine if the expected resistance value is present at a given temperature.

Temperature -- Calculated Resistor Value (Ohms)	
70F	11832 Ohms (11.8K)
110F	4633 Ohms (4.64K)
120F	3733 Ohms (3.74K)
130F	3027 Ohms (3.01K)
140F	2470 Ohms (2.49K)
150F	2028 Ohms (2.05K)
160F	1674 Ohms (1.65K)
170F	1390 Ohms (1.40K)
180F	1160 Ohms (1.15K)