



Texas Electronics, Inc.

The Gold Standard in Weather Instrumentation Since 1957

Ambient Indoor Air Temperature

TT-309-I



Description

The Texas Electronics, Inc. TT-309-I Indoor Air Temperature Sensor with the proper signal processor provides a DC signal proportional to ambient temperature. A highly sensitive linear thermistor-resistor network is utilized as the sensing element. Sensors feature direct interchangeability with one another without system recalibration. (See "Calibration/Cleaning Frequency" to the right.) Air temperature variations create a resistance bridge imbalance, the subsequent output signal varying linearly with temperature. The sensor is housed in a small aluminum housing that can be mounted to a flat surface.

The signal conditioner output voltage may be interfaced with various types of recorders, indicators, dataloggers, etc. as required by the user.

(Specifications on next page)

Features & Benefits

- Available in four different temperature ranges
- Signal Conditioner output can be interfaced with indicators or dataloggers
- Small sensor housing can be mounted to any desired flat surface
- Sensing element utilizes a highly sensitive linear thermistor-resistor network
- Optional Yellow Springs sensing element available
- Over 25 years in production
- Lightweight and rugged white baked-enamel finished aluminum exterior

Installation & Maintenance

The radiation shield with sensing element can be mounted to any flat interior surface where temperature is to be monitored.

Installation:

The system is delivered consisting of two principle parts: (1) the indoor housing containing the sensor with 60 feet (18.28 meters) of cable attached; and (2) an electronics package. The indoor housing with sensor may be installed in whatever area that it is desired to sense the temperature. The electronic package may be installed within 60 ft. (18.28 meters) of the sensor. Longer cable is available upon request.

Calibration / Cleaning Frequency:

The temperature system should not require calibration, however, the system may be checked for accuracy each six months, if desired. In the event that it is required, field calibration (zeroing and spanning) can be readily accomplished by substituting fixed standard resistor values for the sensor output.

No cleaning program should be required with normal use.

Specifications

Ranges Available:	-40° to +120°F -60° to +40°C -40° to +50°C +60° to +220°F
Response (Nominal):	Time to reach 90% of DT 0.8 sec./F
Signal:	Signal output in many forms, depending on signal processor
Accuracy:	+/- 1° within the range of -30° to + 110°F (-34.4° to +43.3°C) +/- 3° from -30° to -40°F (-34.4° to -40°C) and +/- 3° from +110° to + 120°F (+43.3° to +48.8°C)
Environmental Limits:	Temperature: -55° to +180°F (operating range: -40° to +120°F) Humidity: 0-100%
Cable:	60 ft. (18.28 meters)
Warranty:	3 year

Temperature Sensor Characteristics

Degrees F	Degrees C	Resistance	Degrees F	Degrees C	Resistance
Null	Null	34,274	+40°	+4.44°	5,942
-40°	-40°	33,336	+50°	+10°	5,051
-30°	-34.44°	24,904	+60°	+15.55°	4,282
-20°	-28.88°	18,985	+70°	+21.11°	3,642
-10°	-23.33°	14,824	+80° span	+26.66°	3,087
0° Null	-17.77°	12,002	+190°	+32.22°	2,602
+10°	-12.22°	9,844	+100° span	+37.77°	2,186
+20°	-6.66°	8,252	+110°	+43.33°	1,839
+30°	-1.11°	7,002	+120°	+48.88°	1,543

Ordering Information

<u>Model #</u>	<u>Description</u>
TT-309-I	Temperature Sensor

Optional Parts / Accessories

Cable	Additional Cable available upon request
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