

# Temperature Sensors for the T775 Series 2000 Stand-alone Controller

50021579-001

## PRODUCT DATA



## FEATURES

- Fast response time and highly accurate
- 1/2 in. (6.35 mm) stainless steel probe with a thermally conductive epoxy
- All sensors are 1,097 Ohms PTC at 77°F (25°C)
- The 50021579-001 is a standard temperature sensor for indoor applications

## APPLICATIONS

Some typical applications for the 50021579-001 and T775-SENS-WT/-WR sensors include:

- Monitoring return air temperatures
- Monitoring discharge air temperatures
- Monitoring mixed air temperatures

## DESCRIPTION

The T775 temperature sensors are 1097 Ohm sensors for use with the T775 Series 2000 electronic standalone controller in commercial heating and cooling applications.

NOTE: See the T775 Series 2000 Spec Data sheet (63-1318) for a complete list of compatible devices

## SPECIFICATIONS

**Probe**

**Dimensions:** See Figures 1 through 4

**Operating temperature range:**

50021571-001: -40 F to 350 F (-40C to 177C) Short term spikes to 392F (200C) okay.

T775-SENS-WR and T775-SENS-WT: -40F to 270F (-40C to 132C)

T775-SENS-OAT: -40F to 158F (-40C to 70C)

**Accuracy:** Meets DIN-IEC-751 Class A standards for overall accuracy of  $\pm 0.06\%$  at 32°F (0°C)

**Self Heating Coefficient:** 4 mW/C (Measured in air with velocity of 1m/sec.)

**Response Time:** Air (Velocity = 1 m/s) = 15 sec. max.

**Temperature Coefficient:** 3,850 ppm/C

**Environmental Compliance:** RoHS-Directive 2002/95/EC

**Applied Current:** 1.0 mA Max.

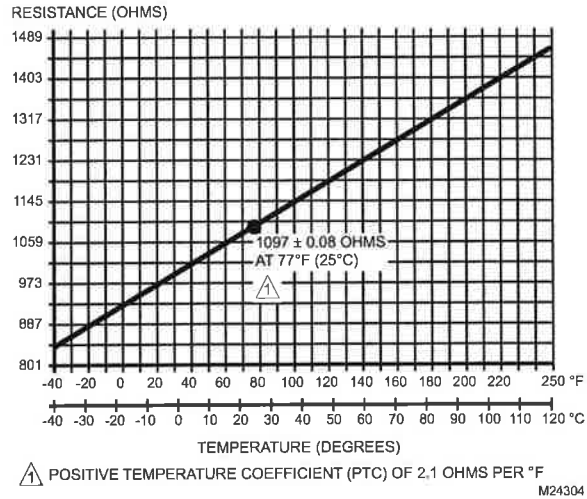
**Sensor Output:** 1 K Ohms at 32 F (0 C)

**Approvals:**

RoHS: Compliant

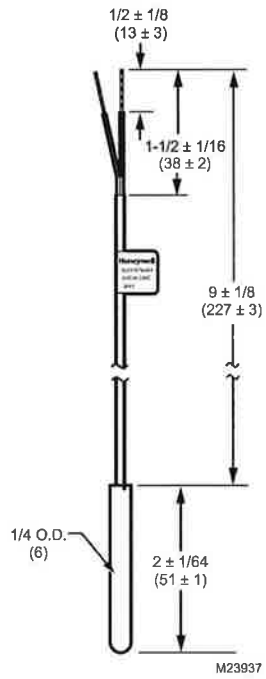
## Sensor Resistance vs. Temperature

Figure 1 show how sensor resistance varies with temperature for a sensor having a positive temperature coefficient (PTC) or 2.1 Ohms per degree F (3.85 Ohms per degree C).



**Fig. 1. Sensor Resistance vs. Temperature**

## Dimension Drawings



**Fig. 2. 50021579-001 dimensions in inches (mm).**

## INSTALLATION

The **50021579-001** and **T775-SENS-WR/WT** remote probe temperature sensors are single point temperature sensors with Stainless Steel (304 Series) probes. Use care when installing the probes. Pay attention not to kink the cable, especially on the 5 ft units. The red/black wires should be securely connected to the controller. The probe must be

strapped tightly to the pipe, duct, or device that is being monitored. A loose attachment could affect the accuracy. To ensure good contact, thermal grease is recommended. Insulating the sensor will help the overall accuracy. When installing the **T775-SENS-WR** sensor (5 ft cable), it may be necessary to wire tie the cable, depending upon the application.

## TROUBLESHOOTING

If...	Then...
<b>Sensor reads 0 ohms or very low</b>	Sensor or wires are shorted together Verify that (2) leads are not shorted to the probe.
<b>Sensor reads infinity or very high</b>	Sensor or wires are cut or open
<b>Erratic readings</b>	Bad wire connections - Condensation or Moisture problem
<b>Inaccurate Sensor</b>	If you suspect that the sensor is not reading within the specified tolerance, disconnect the sensor wires from the Building Management System (DDC Controller) and attach a NIST traceable ohmmeter across the two wires. Compare the reading to the table listed below. If you feel that the sensor is different from the table below please contact ACI for further assistance.

## WEEE Directive

At the end of their useful life the packaging and product should be disposed of via a suitable recycle centre. Do not dispose of with household waste. Do not burn.

