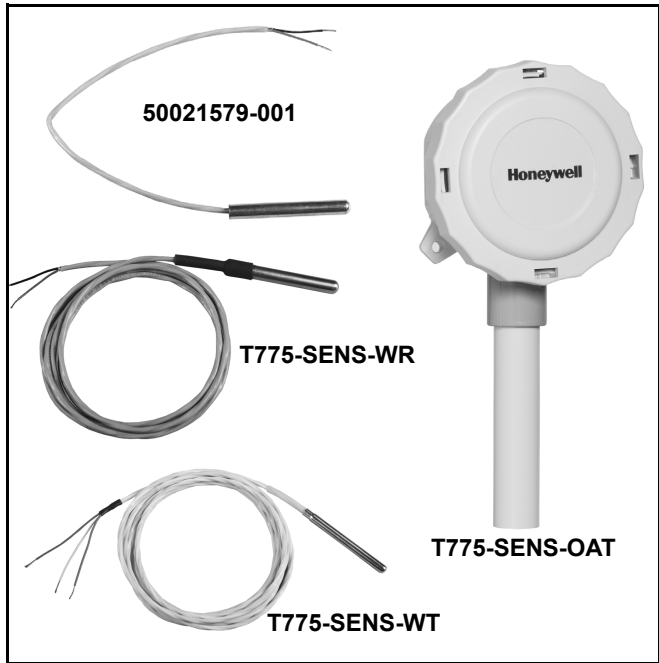


# Temperature Sensors for the T775 Series 2000 Stand-alone Controller

50021579-001, T775-SENS-WR, T775-SENS-WT, T775-SENS-OAT

**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
- The T775-SENS-WR is a water resistant sensor with 5 ft leads
- The T775-SENS-WT is a water tight sensor with 6 ft leads
- The T775-SENS-OAT is for sensing outdoor air temperature and is housed in a weatherproof case for outdoor use (knockouts allow for 1/2 in. conduit connection)
- Two year warranty

## 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

Use the T775-SENS-OAT to measure outside air temperature.

## 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

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## 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.

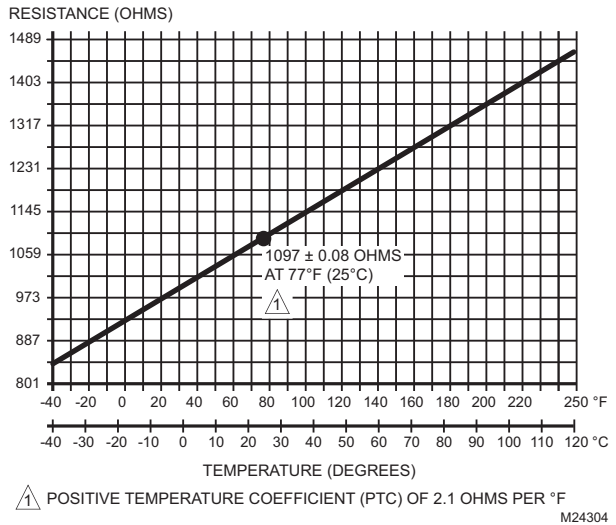
**Sensor Output:** 1 K Ohms at 32 F (0 C)

**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**

## OTHER COMPATIBLE T775 SENSORS

There are a number of other temperature, humidity, and differential pressure sensors that are compatible with the T775 electronic stand-alone controller. The table below shows compatible temperature sensors. See the T775 Specification Data for a full list of compatible sensors (63-1318).

**Table 1. Other T775 2000 Series Compatible Temperature Sensors**

Product Number	Description	Application	More Info
C7031D2003	5 in. immersion sensor (well included, 5001774-001)	Hot or chilled water	Form no. 63-2590
C7031B2005	6 inch duct sensor with wiring box	Duct Air	Form no. 63-2590
C7031J2009	12 ft duct averaging sensor with four elements	Duct discharge air	Form no. 63-2590
C7046D1008	8 in. duct probe with mounting flange	Duct discharge air mounts on flat duct or plenum surface	Form no. 60-2350
C7100D1001	12 in. flat response, duct averaging sensor with flange	Averaging duct discharge air for use in troubleshooting	Form no. 60-2521
C7130B1009	Room mount sensor	Wall mount air temperature sensor	Form no. 63-2044

## ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE® Catalog or price sheets for complete ordering number.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Automation and Control Products Sales Office (check white pages of your phone directory).
2. Honeywell Customer Care  
1885 Douglas Drive North  
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Honeywell Limitée, 35 Dynamic Drive, Toronto, Ontario M1V 4Z9.

International Sales and Service Offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

## Dimension Drawings

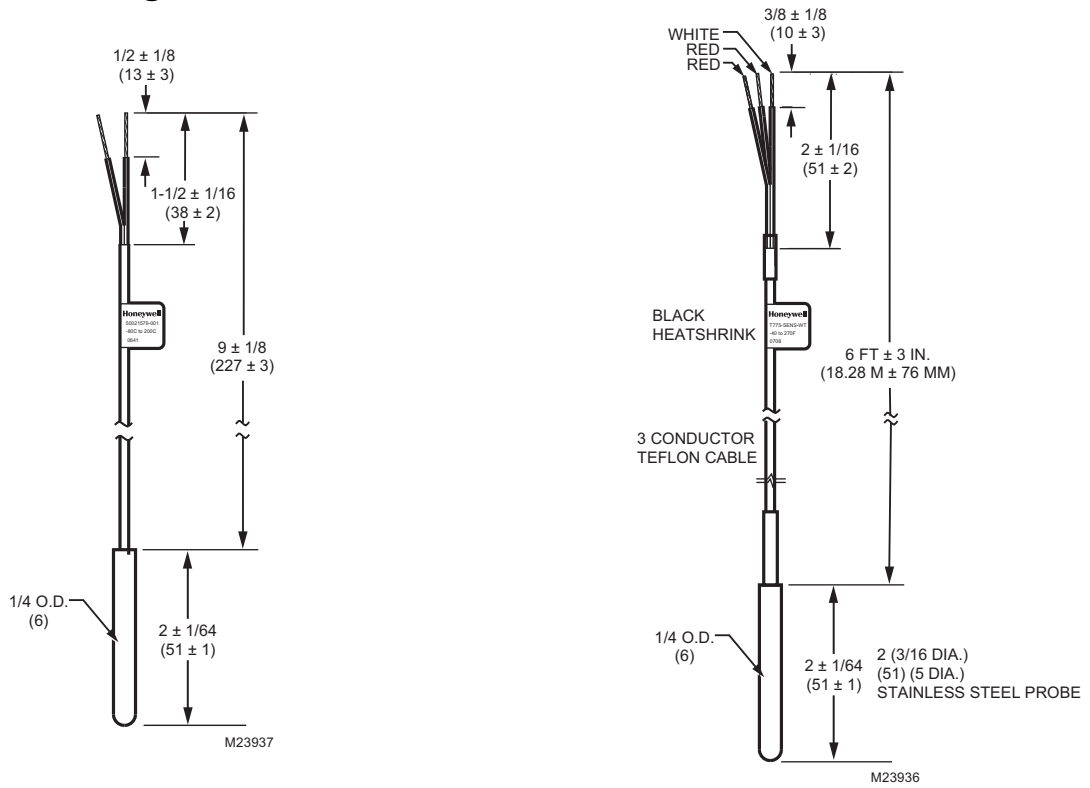


Fig. 2. 50021579-001 dimensions in inches (mm).

Fig. 4. T775-SENS-WT dimensions in inches (mm).

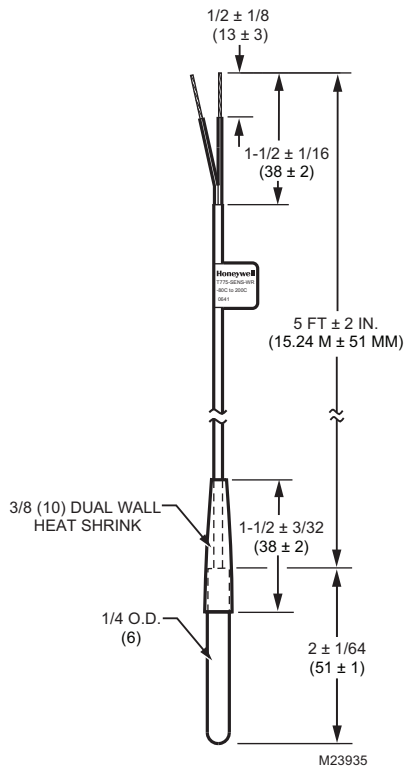


Fig. 3. T775-SENS-WR dimensions in inches (mm).

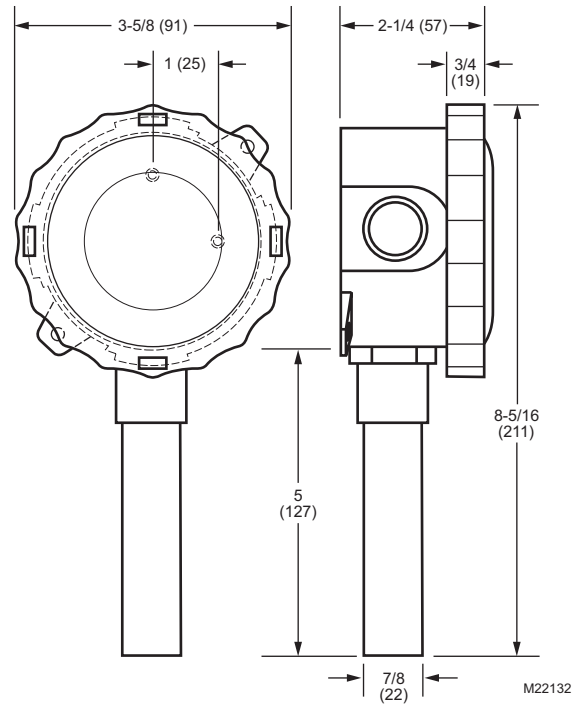


Fig. 5. T775-SENS-OAT dimensions in inches (mm).

## 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.



### Automation and Control Solutions

Honeywell International Inc.  
1985 Douglas Drive North  
Golden Valley, MN 55422  
customer.honeywell.com

Honeywell Limited-Honeywell Limitée  
35 Dynamic Drive  
Toronto, Ontario M1V 4Z9

