

TE1000 Series Platinum Temperature Sensors

Applications

The TE1000 Series platinum temperature sensors provide economical solutions for a wide variety of temperature sensing needs, including strap-mount, insertion, immersion and duct-mount applications. The TE1000 Series include:

- Strap-mount sensors
- Direct insertion sensors
- Direct immersion sensors
- Duct-mount sensors

Features

- Highly sensitive platinum sensing element
- Same characteristic for each sensor through calibration, no sensor/controller matching problems
- Very accurate, each sensor factory calibrated
- Flexibility, suited for many applications

General

A highly sensitive platinum element provides accurate measurement of temperature. While the immersion sensors are watertight and are suitable for direct immersion into pipes with or without wells, the insertion sensors are suitable for direct insertion into pipes with wells or ducts. Both sensors are available with stainless steel bulbs.

Mounting

The sensor is position sensitive. It only senses the temperature at the place where it is installed. Therefore, in order to achieve a good temperature measurement, it is extremely important to choose an ideal place for installing the sensor.



Wiring Notes

1. All wiring to sensor is of low voltage. All sensors require only 2 leads to the control.
2. 22 AWG twisted shielded pair double-insulated cable is recommended as sensor wiring and its length must not exceed 50 m.
3. Do not bundle and run power wiring and sensor wiring in the same conduit.
4. Run the sensor wiring away from any electric motors or power wiring. Failure to do so may result in poor thermostat performance due to electrical noise.

Table 1 - Resistance versus Temperature of TE1000 Series Platinum Temperature Sensors

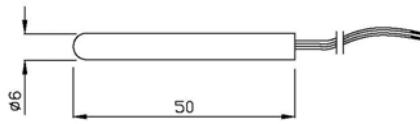
Temperature °C	Resistance Ω	Temperature °C	Resistance Ω	Temperature °C	Resistance Ω
0	1000	17	1063.75	34	1127.5
1	1003.75	18	1067.5	35	1131.25
2	1007.5	19	1071.25	36	1135
3	1011.25	20	1075	37	1138.75
4	1015	21	1078.75	38	1142.5
5	1018.75	22	1082.5	39	1146.25
6	1022.5	23	1086.25	40	1150
7	1026.25	24	1090	41	1153.75
8	1030	25	1093.75	42	1157.5
9	1033.75	26	1097.5	43	1161.25
10	1037.5	27	1101.25	44	1165
11	1041.25	28	1105	45	1168.75
12	1045	29	1108.75	46	1172.5
13	1048.75	30	1112.5	47	1176.25
14	1052.5	31	1116.25	48	1180
15	1056.25	32	1120	49	1183.75
16	1060	33	1123.75	50	1187.5

Specifications

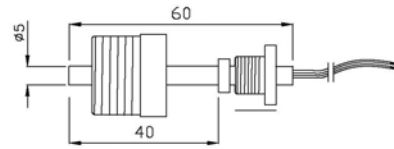
	Model Numbers	T1K-01	Strap-mount type, provides a 6x50 mm probe with a 1 m cable	
		T1K-02	Insertion type with a male 1/2" (15 mm) BSP pipe connection, for direct insertion into a duct or into a pipe with a thermal well through a threaded welding socket, provides a 5x40 mm probe with a 1m cable	
		T1K-03	Immersion type with plastic electrical box and a male 1/2" (15 mm) BSP pipe connection, for direct immersion into a pipe with a thermal well through a threaded welding socket, provides a 8x120 mm probe. Add thermal compound before inserting the probe if the well does not include thermal compound.	
		T1K-04	Duct type with plastic electrical box, provides 20x155 mm probe for direct duct mounting	
	Sensing Element	Platinum, 1 kΩ@0°C, See Table 1 for temperature/resistance characteristics		
	Probe Material	Chrome-plated copper		
	Range	0-50°C		
	Protection Class	T1K-01, 02 and 03	IP54	
		T1K-04	IP53	
	Wire Connections	T1K-01	1m cable	
		T1K-02	1 m cable	
		T1K-03	Screw-down terminals	
		T1K-04	1 m cable	
	Maximum Length of Connecting Wires	50 m, wire size 0.4 mm ² or 22 AWG shielded twisted pair recommended		
	Ambient / Storage Temperature Limits	0 to 50 °C / -30 to 50 °C		
	Agency Approval	CE Mark compliant pending		
	Shipping Weights	T1K-01: 0.05 kg; T1K-02: 0.1 kg; T1K-03: 0.3 kg; T1K-04: 0.2 kg		
	Dimensions	See Fig. 1: Dimensions in mm		

*The performance specifications above are nominal and subject to tolerances and application variables of generally acceptable industry standards.
The Manufacturer shall not be liable for damages resulting from misapplication or misuse of its products.*

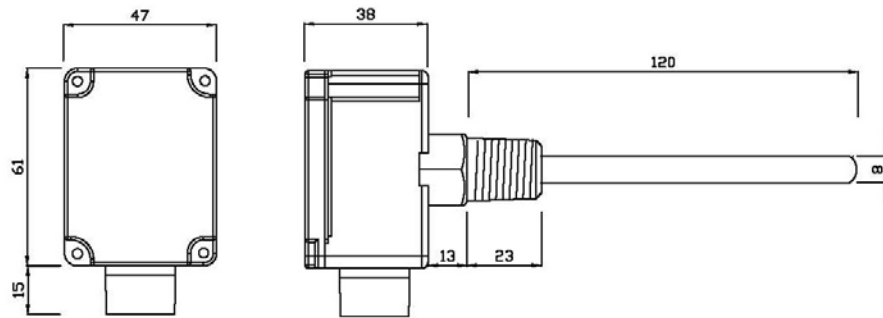
Figure 1: Dimensions in mm



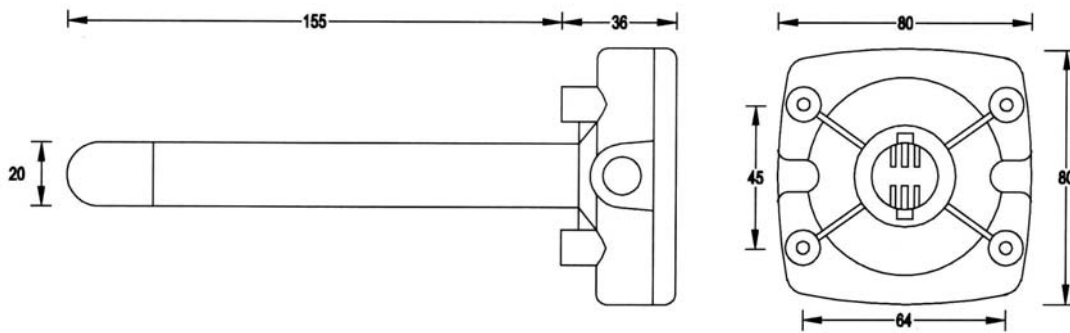
T1K-01 Probe Sensor



T1K-02 Insertion Sensor



T1K-03 Immersion Sensor



T1K-04 Duct Sensor

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