Duct Temperature Sensors
Model TE-701/702

- **Five installation options—probe with mounting flange or bulkhead fitting, plastic, galvanized steel, or NEMA-4/IP-65 steel enclosure offer the industry's most extensive range to satisfy all HVAC, appliance and industrial applications.**

- **304 SS thin wall probe with a cold rolled hermetically sealed end forms a monolithic encapsulation cavity for the sensor and is immune to failures caused by high humidity, contamination, thermal shock and vibration.**

- **The flat probe end provides a large thermally sensitive area and the sensor is in direct thermal contact to this surface. As a result, extremely fast response is achieved to changes in temperature.**

- **More than 12 types of interchangeable NTC thermistors, precision platinum, nickel or balco RTD's are available for universal compatibility.**

- **Probe is attached to the enclosure or the flange using a patented process to provide a rugged, reliable and low profile attachment for ease of installation.**

TE-701/702 temperature sensors offer the industry's most extensive range of enclosure, installation and sensor types to satisfy all HVAC, industrial and commercial applications. These revolutionary sensors incorporate more than twenty years of product development and experience drawn from millions of installations world wide in all types of applications. This product and process design combined with automated manufacturing processes yields a rugged, reliable, repeatable and stable temperature sensor at a low cost.

For large volume OEM customers, TE-701/702 temperature sensors are available in many custom configurations. Wire type, length or gage, terminals, connectors, probe lengths, enclosure options or sensor types may be customized based on volume.

TE-701-A/B   **Temperature Sensor**
                       Flange Mount

Incorporate a hermitically sealed 304 SS probe, crimped on to a 304 SS flange providing rugged assembly for duct temperature sensing. Two mounting holes are provided for #8 screws and the flange mating surface is fully gasketted to seal off the probe and screw holes. TE-701-A is available with 3 in/75mm wire leads and the TE-701-B has 6 ft/1.8 meter plenum rated cable. TE-701-A/B is an ideal product for a rugged, reliable, quick and easy installation in air handlers, fan coil units, ducts, furnaces, freezers, ovens or any other through the wall temperature sensing application.

TE-701-C/D   **Temperature Sensor**
                       Bulkhead mount

Fast response 304 SS probe with a brass bulkhead fitting and a compression sleeve forms a strong assembly for duct temperature sensing if adjustable insertion depth is desired. The bulkhead fitting is installed in the duct, compression sleeve loosened, probe inserted to the desired length and the sleeve is tightened. Sensor is available with 3 in/75mm leads or 6 ft/1.8 meter plenum rated cable. TE-701-C/D sensors provide a low cost, rugged, quick and easy installation in air handlers, fan coil units, ducts, plenum, furnaces, freezers, ovens or any other through the wall temperature sensing application which requires adjustable insertion length.

TE-702-A   **Temperature Sensor**
                    Polycarb Enclosure

Corrosion free 30% glass filled polycarbonate enclosure designed to withstand temperature extremes, mechanical shock and vibration. 304 SS probe crimp attached to the enclosure flange for a low profile mating surface, external mounting bracket to conform to irregular surfaces, single screw cover attachment, cradle molded into the enclosure to secure the rising cage terminal block are some of the features which improve reliability and lower installation cost. TE-702-A temperature sensors provide a cost effective and reliable solution for air handlers, fan coil units, ducts, plenums, furnaces or any other application which does not require conduit wiring.

TE-701 / 702

TE-702-B   **Temperature Sensor**
               Galvanized Steel Enclosure

Industry standard NEMA-1 / IP-30 galvanized sheet metal enclosure designed for all industrial and commercial duct temperature sensing applications. Hermitically sealed, fast response 304 SS probe crimp attached to the enclosure flange to provide a low profile mating surface, external mounting bracket to conform to uneven surfaces, keyed enclosure cover to swing open without removing the screws, 1/2" conduit opening, rising cage terminal block are some of the features which improve reliability and lower installation cost.

TE-702-C   **Temperature Sensor**
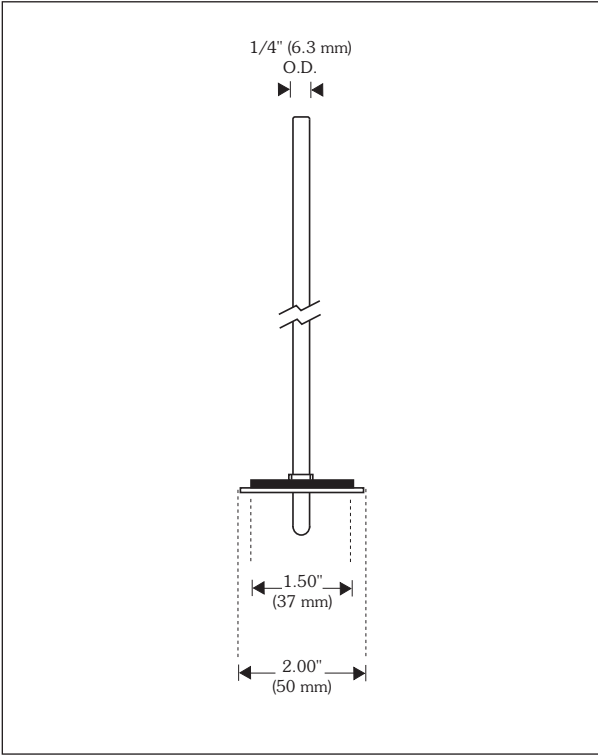   **Powder Coated Steel Enclosure**

Rugged steel enclosure with welded seems, gasketted cover and powder coated finish, rated NEMA-4 / IP-65 for harsh environments. TE-702-C has all the other features including a 304 SS probe, external mounting bracket, terminal block, conduit opening similar to the TE-702-B series except designed for applications in unconditioned environments where the unit maybe subjected to dirt, condensation, oil vapor and other contaminants.
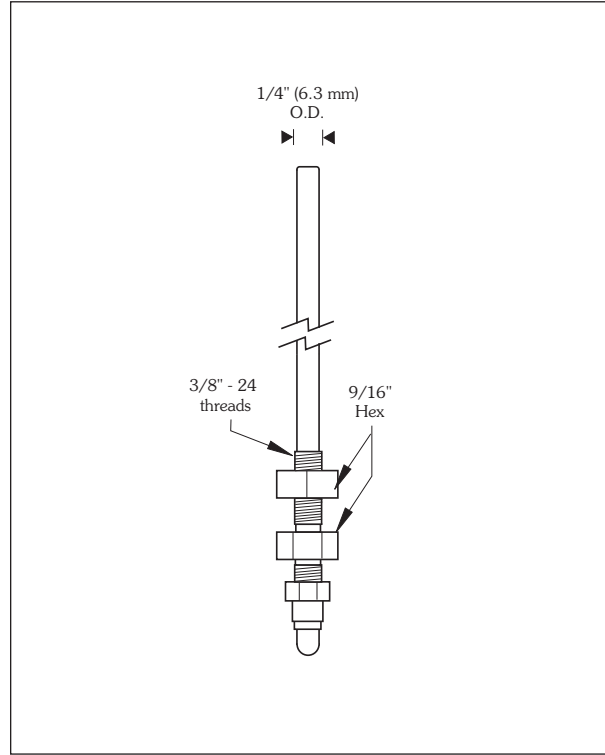
SPECIFICATIONS:

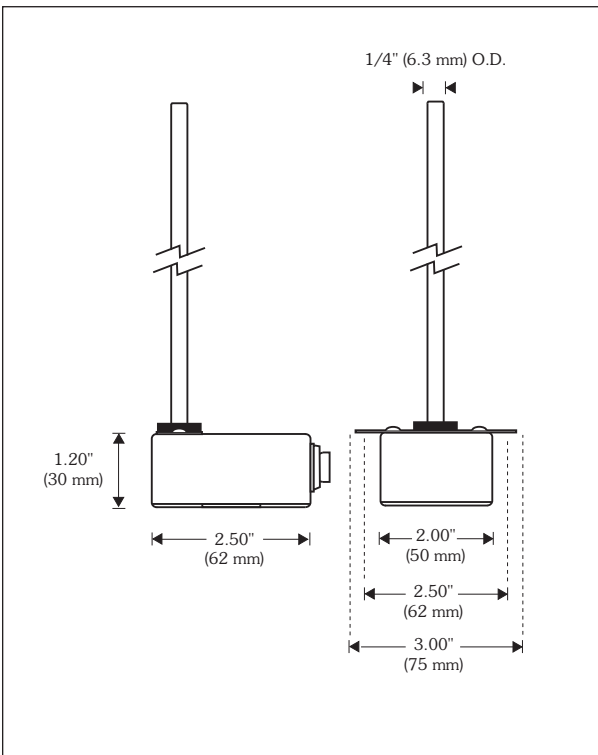|	
Platinum RTD sensors:	+/- 0.1% @ 0 C, Alpha : 385 per DIN 43760
Nickel RTD sensors:	+/- 0.5 F @ 70 F / 21.1 C, 6000 PPM/K T.C.R.
Balco RTD sensors:	+/- 0.5 F @ 70 F /21.1 C, 4300 PPM/K T.C.R.
Thermistor sensors:	+/- 0.2 C interchangeability @ 77 F/ 0 C
Probe Material:	1/4" / 6.3mm O.D, 0.020" / 0.5mm wall 304 Stainless Steel
Flange Material:	304 Stainless Steel
Bulkhead Fitting:	Brass with poly compression sleeve
Plastic Enclosure:	Polycarbonate 30% glass filled, rated UL 94V-5-0
Steel NEMA-1 / IP-30:	18 Ga. Galvanized Steel
Steel NEMA-4 / IP-65:	18 Ga. Cold Rolled Steel, Powder coated

TE-701-A/B

1/4" (6.3 mm)
O.D.

1.50"
(37 mm)

2.00"
(50 mm)

TE-701-C/D

1/4" (6.3 mm)
O.D.

3/8" - 24
threads

9/16"
Hex

TE-702-A

1/4" (6.3 mm) O.D.

1.20"
(30 mm)

2.50"
(62 mm)

2.00"
(50 mm)

2.50"
(62 mm)

3.00"
(75 mm)

TE-702-B/C

1/4" (6.3 mm) O.D.

1/4" (6.3 mm) O.D.

1/2"
knockout

2.00"
(50 mm)

4.00" (100 mm)

2.50" (62 mm)

3.25" (80 mm)

4.00" (100 mm)

4
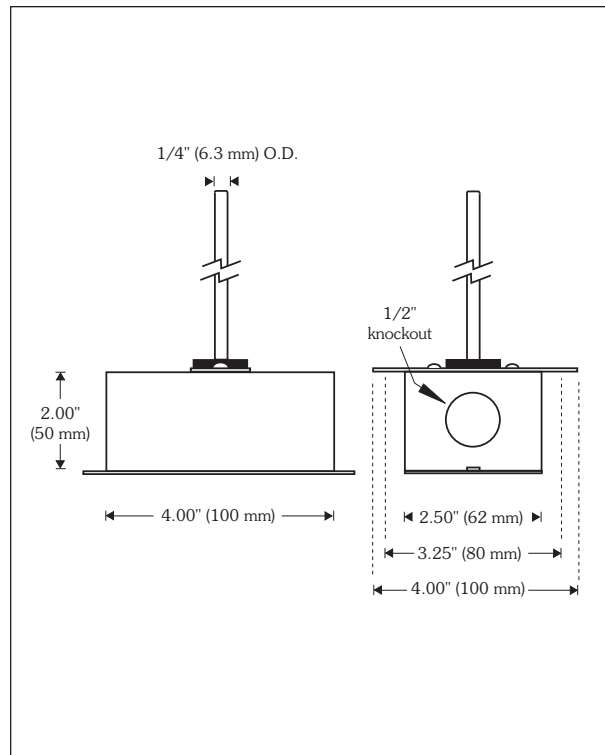
ORDERING INFORMATION: TE-701

Installation		Sensor*		Probe Length	
A	Flange mount 3 in/175mm wire leads	1	100 ohm Platinum RTD	A	4 inches/100mm
B	Flange mount 6 ft/1.8m plenum cable	3	1000 ohm Platinum RTD	B	6 inches/150mm
		4	1000 ohm Nickel RTD	C	8 inches/200mm
C	Bulkhead mount 3 in/175mm wire leads	5	1000 ohm Balco RTD	D	12 inches/300mm
		7	10,000 ohm thermistor		
D	Bulkhead mount 6 ft/1.8m plenum cable	10	3,000 ohm thermistor		
		12	10,000 ohm thermistor		
		13	5,000 ohm thermistor		
		15	100,000 ohm thermistor		
		17	20,000 ohm thermistor		
		18	2,252 ohm thermistor		
		21	1,800 ohm thermistor		

Example: TE-701-B-10-A: Flange mount with 6 ft cable, 3000 ohm thermistor and 4 inch probe length.

ORDERING INFORMATION: TE-702

Installation		Sensor*		Probe Length	
A	Polycarb Plastic Enclosure IP-54	1	100 ohm Platinum RTD	A	4 inches/100mm
		3	1000 ohm Platinum RTD	B	6 inches/150mm
B	Galvanized Steel Enclosure NEMA-1 / IP-30	4	1000 ohm Nickel RTD	C	8 inches/200mm
		5	1000 ohm Balco RTD	D	12 inches/300mm
C	Painted Steel Enclosure NEMA-4 / IP-65	7	10,000 ohm thermistor		
		10	3,000 ohm thermistor		
		12	10,000 ohm thermistor		
		13	5,000 ohm thermistor		
		15	100,000 ohm thermistor		
		17	20,000 ohm thermistor		
		18	2,252 ohm thermistor		
		21	1,800 ohm thermistor		

Example: TE-702-A-2-D: Polycarb plastic enclosure with 1000 ohm Platinum RTD and 12 inch probe length.

* For sensor compatibility, please refer to TI.700-10.
** For a complete Resistance vs. Temperature tables, please refer to TI.700-11.

DN701/2.1

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