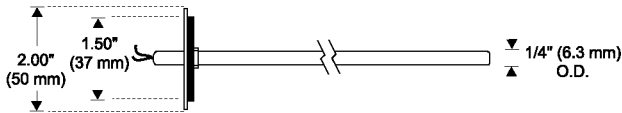
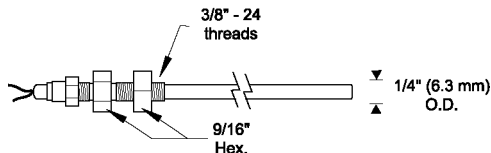
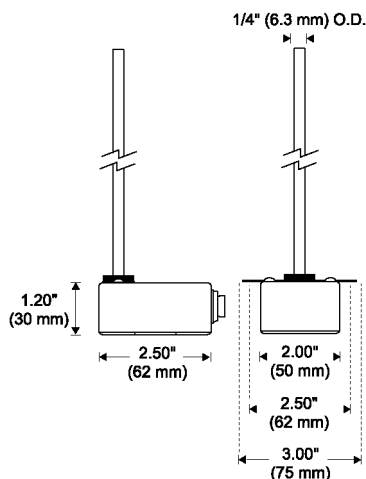
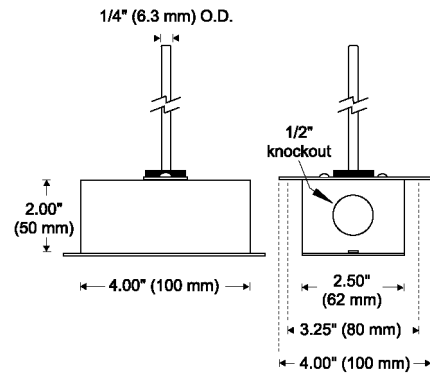


Ordering Information

INSTALLATION	SENSOR	PROBE LENGTH				
701 A Flange mount, 3-inch lead wire	1	100-ohm platinum RTD	A 4 inches/ 100 mm			
	3	1,000-ohm platinum RTD	B 6 inches/ 150 mm			
	701 B Flange mount, 6-foot cable	4	1,000-ohm nickel RTD	B 6 inches/ 150 mm		
		5	1,000-ohm Balco RTD	C 8 inches/ 200 mm		
	701 C Bulkhead fitting, 3-inch lead wire	7	10,000-ohm NTC thermistor	C 8 inches/ 200 mm		
		10	3,000-ohm NTC thermistor	D 12 inches/ 300 mm		
	701 D Bulkhead fitting, 6-foot cable	11	10,000-ohm NTC thermistor	D 12 inches/ 300 mm		
		13	5,000-ohm NTC thermistor			
		15	100,000-ohm NTC thermistor			
		17	20,000-ohm NTC thermistor			
		18	2,252-ohm NTC thermistor			
		21	1,800-ohm NTC thermistor			
		702 A Polycarb plastic enclosure IP-54	1	100-ohm platinum RTD	A 4 inches/ 100 mm	
			3	1,000-ohm platinum RTD	B 6 inches/ 150 mm	
			702 B Galvanized steel enclosure NEMA-1/IP-30	4	1,000-ohm nickel RTD	B 6 inches/ 150 mm
				5	1,000-ohm Balco RTD	C 8 inches/ 200 mm
	702 C Painted steel enclosure NEMA-4/IP-65		7	10,000-ohm NTC thermistor	C 8 inches/ 200 mm	
			10	3,000-ohm NTC thermistor	D 12 inches/ 300 mm	
			11	10,000-ohm NTC thermistor		
			13	5,000-ohm NTC thermistor		
			15	100,000-ohm NTC thermistor		
17			20,000-ohm NTC thermistor			
18	2,252-ohm NTC thermistor					
21	1,800-ohm NTC thermistor					

Dimensions

Figure 1. TE 701 A and B Dimensions

Figure 2. TE 701 C and D Dimensions

Figure 3. TE 702 A Dimensions

Figure 4. TE 702 B and C Dimensions
Specifications

Platinum RTD Sensors: $\pm 0.1\%$ @ 32°F (0°C), Alpha: 385 per DIN 43760

Nickel RTD Sensors: $\pm 0.5^\circ\text{F}$ @ 70°F (21.1°C), 6,000 PPM/K T.C.R.

Balco RTD Sensors: $\pm 0.5^\circ\text{F}$ @ 70°F (21.1°C), 4,300 PPM/K T.C.R.

Thermistor Sensors: $\pm 0.2^\circ\text{C}$ interchangeability @ 77°F (25°C)

Operating Temperature: -40°F to 250°F (-40°C to 125°C)

Probe Material: 1/4-inch (6.3 mm) O.D., 0.5 mm 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

Installation
Before Installation

- Read these instructions carefully. Failure to do so can result in damage or electrical shock.
- Inspect packaging for signs of damage. If damaged, notify the carrier immediately.
- Verify that the sensor specifications are suitable for the particular application.
- Installers must be trained and qualified technicians.
- **Important:** All wiring must be compatible with applicable codes, ordinances, and instructions.

Location

Install the sensor in a location where it will sample the average air temperature in a duct. Avoid areas where the air is stratified because these areas can cause sensing errors.

Mount the TE 701 A or B Sensor

1. Drill a 3/8-inch (9 mm) hole into the duct or plenum where the sensor will be installed.
2. Insert the sensor probe into the duct or plenum until the flange rests against the duct or plenum wall.
3. Use the flange as a template to mark and drill holes for two #8 self-tapping sheet metal screws (not provided).
4. Fasten the sensor to the duct or plenum wall with the sheet metal screws.
5. Make the wiring connections. See Figure 5.

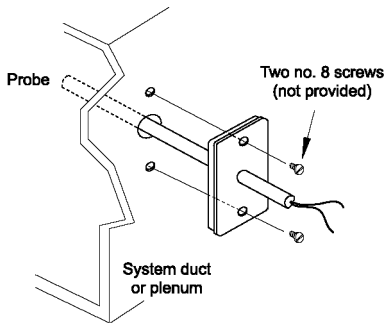


Figure 5. Installing the TE 701 A or B Sensor

Mount the TE 701 C or D Sensor

1. Drill a 3/8-inch (9 mm) hole into the duct or plenum where the sensor will be installed.
2. Remove the mounting nut from the bulkhead fitting.
3. Insert the sensor probe into the duct or plenum until the bulkhead fitting rests against the duct or plenum wall.
4. Guide the nut along the probe and tighten against the duct or plenum.
5. Make the wiring connections. See Figure 6.

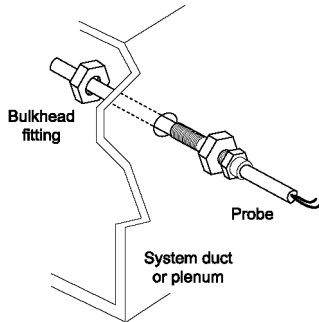


Figure 6. Installing the TE 701 C or D Sensor

Mount the TE 702 A, B, or C Sensor

1. Drill a 3/8-inch (9 mm) hole into the duct or plenum where the sensor will be installed.
2. Insert the sensor probe into the duct or plenum until the mounting bracket rests against the duct or plenum wall.
3. Use the mounting bracket as a template to mark and drill holes for two #8 self-tapping sheet metal screws (not provided).
4. Fasten the sensor to the duct or plenum wall with the sheet metal screws.
5. Make the wiring connections. See Figure 7.

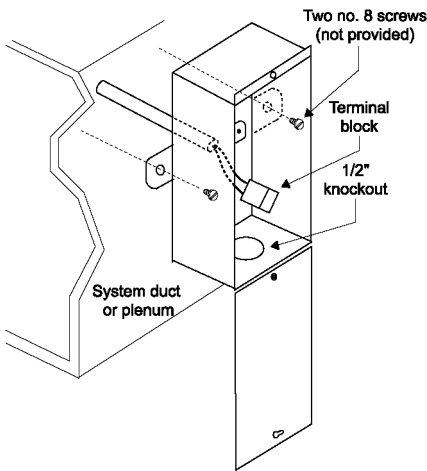


Figure 7. Installing the TE 702 A, B, or C Sensor

Checkout

Allow the sensor to stabilize in the duct air stream for a minimum of five minutes before taking a resistance measurement.

1. Disconnect the sensor lead wires from the controller.
2. Connect an ohmmeter across the lead wires.
3. Ensure that nominal resistance measurements are in accordance with the resistance / temperature curves.
4. Reconnect sensor lead wires to the controller.
5. Check operation of the complete control system.

Warranty

See the accompanying data sheet for additional information. For technical or application assistance, contact the nearest office.

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Table 1. Resistance Versus Temperature

°F	°C	Type 1 RTD	Type 3 RTD	Type 4 RTD	Type 5 RTD	Type 7 thermistor	Type 10 thermistor
72	22.2	108.66	1,086.6	1,006.0	1,004.4	11,194	3,392
72.5	22.5	108.76	1,087.6	1,007.5	1,005.5	11,068	3,350
73	22.8	108.87	1,088.7	1,009.0	1,006.6	10,943	3,309
73.5	23	108.98	1,089.8	1,010.5	1,007.6	10,820	3,269
74	23.3	109.09	1,090.9	1,012.0	1,008.7	10,698	3,229
74.5	23.6	109.19	1,091.9	1,013.5	1,009.8	10,578	3,189
75	23.9	109.30	1,093.0	1,015.1	1,011.0	10,459	3,150
75.5	24.1	109.41	1,094.1	1,016.6	1,012.1	10,343	3,112
76	24.4	109.52	1,095.2	1,018.1	1,013.2	10,227	3,074
76.5	24.7	109.62	1,096.2	1,019.6	1,014.3	10,113	3,037
77	25	109.73	1,097.3	1,021.1	1,015.4	10,000	3,000
77.5	25.3	109.84	1,098.4	1,022.6	1,016.5	9,889	2,964
78	25.5	109.95	1,099.5	1,024.1	1,017.6	9,779	2,928
78.5	25.8	110.06	1,100.1	1,025.6	1,018.7	9,671	2,890
79	26.1	110.17	1,101.7	1,027.2	1,019.8	9,563	2,858
79.5	26.4	110.27	1,102.7	1,028.7	1,020.9	9,458	2,823
80	26.7	110.38	1,103.8	1,030.2	1,022.1	9,353	2,789
80.5	27	110.49	1,104.9	1,031.7	1,023.2	9,250	2,756
81	27.2	110.60	1,106.0	1,033.3	1,024.3	9,148	2,723
81.5	27.5	110.70	1,107.0	1,034.8	1,025.4	9,045	2,690
82	27.8	110.81	1,108.1	1,036.3	1,026.5	8,943	2,658

Table 2. Resistance Versus Temperature

°F	°C	Type 12 thermistor	Type 13 thermistor	Type 15 thermistor	Type 17 thermistor	Type 18 thermistor	Type 21 thermistor
72	22.2	11,307	5,654	113,080	22,825	2,546	2,005
72.5	22.5	11,169	5,584	111,680	22,525	2,515	1,983
73	22.8	11,031	5,515	110,300	22,226	2,484	1,962
73.5	23	10,896	5,448	108,960	21,935	2,454	1,941
74	23.3	10,762	5,381	107,620	21,645	2,424	1,920
74.5	23.6	10,631	5,316	106,320	21,362	2,394	1,899
75	23.9	10,501	5,251	105,020	21,080	2,365	1,879
75.5	24.1	10,374	5,188	103,760	20,806	2,336	1,859
76	24.4	10,247	5,124	102,480	20,532	2,308	1,839
76.5	24.7	10,123	5,062	101,240	20,266	2,280	1,819
77	25	10,000	5,000	100,000	20,000	2,252	1,800
77.5	25.3	9,880	4,940	98,800	19,741	2,225	1,791
78	25.5	9,760	4,880	97,600	19,483	2,198	1,762
78.5	25.8	9,643	4,821	96,420	19,232	2,171	1,743
79	26.1	9,526	4,763	95,260	18,981	2,145	1,725
79.5	26.4	9,412	4,706	94,120	18,737	2,119	1,707
80	26.7	9,298	4,649	92,980	18,494	2,094	1,689
80.5	27	9,187	4,616	92,320	18,257	2,069	1,671
81	27.2	9,077	4,583	91,660	18,020	2,044	1,653
81.5	27.5	8,969	4,507	90,140	17,790	2,020	1,636
82	27.8	8,861	4,431	88,620	17,560	1,996	1,619

For complete resistance versus temperature tables, please refer to TI.700-11.