

**DUCT AVERAGING TEMPERATURE SENSORS**

For Additional Information See TE-705 Data Sheet

**SPECIFICATIONS**

**Platinum RTD Sensors:**

±0.1% @ 32°F (0°C), Alpha: 385 per DIN 43760

**Nickel RTD Sensors (#2):**

±0.5°C @ 0°C (32°F), 5,000 PPM/K T.C.R.

**Nickel RTD Sensors (#4):**

±0.5°F @ 70°F (21.1°C), 6,000 PPM/K T.C.R.

**Balco RTD Sensors:**

±0.5°F @ 70°F (21.1°C), 4,300 PPM/K T.C.R.

**Thermistor Sensors:**

±0.2°C interchangeability @ 77°F (25°C)

**Operating Temperature:**

-40°F to 210°F (-40°C to 100°C)

**Probe Material:**

3/8" (9 mm) Bendable aluminum

**Flange Material:**

Galvanized Steel

**Steel NEMA-1 (IP-30):**

18 Ga. Galvanized Steel

**Steel NEMA-4 (IP-65):**

18 Ga. Cold Rolled Steel, Powder coated

**Warranty:**

Five Years (Lifetime on Moisture Migration)

**EMC Conformance:** EN 55022, 55024, 61000-3-3,

61000-4-2, 3, 4, 5, 6 & 11

U.S. PATENT NO. 6592254, 7465087

**ORDERING INFORMATION: TE-705-**

INSTALLATION	TEMP SENSOR	PROBE LENGTH	PROBE TYPE
<b>B</b> Galvanized Steel Enclosure (NEMA-1 / IP-30)	<b>1</b> 100-Ohm Platinum RTD	<b>A</b> 6 ft (1.8 m)	<b>1</b> Bendable 3/8" Aluminum
	<b>2</b> 1,000-Ohm Nickel RTD (5,000 PPM)	<b>B</b> 12 ft (3.6 m)	
<b>C</b> Painted Steel Enclosure (NEMA-4 / IP-65)	<b>3</b> 1,000-Ohm Platinum RTD	<b>C</b> 24 ft (7.2 m)	
	<b>4</b> 1,000-Ohm Nickel RTD (6,000 PPM)		
	<b>5</b> 1,000-Ohm Balco RTD		
	<b>7</b> 10,000-Ohm NTC Thermistor (Type III)		
	<b>8</b> 10,000-Ohm NTC Thermistor (Carel)		
	<b>10</b> 3,000-Ohm NTC Thermistor		
	<b>12</b> 10,000-Ohm NTC Thermistor (Type II)		
	<b>13</b> 5,000-Ohm NTC Thermistor		
	<b>14</b> 1,035-Ohm Silicon PTC		
<b>15</b> 100,000-Ohm NTC Thermistor			
<b>16</b> 10,000 ohm NTC Thermistor (Eliwell)			
<b>17</b> 20,000-Ohm NTC Thermistor			
<b>18</b> 2,252-Ohm NTC Thermistor			
<b>21</b> 1,800-Ohm NTC Thermistor			

**Example: TE-705-B-10-B-1:** Duct Averaging Temp Sensor, NEMA-1 enclosure, 12 ft. bendable 3/8" aluminum, 3,000 ohm NTC thermistor.

For **Resistance vs. Temperature** tables, please refer to TI.700-11.

**INSTALLATION**

**Inspection** Inspect the package for damage. If damaged, notify the appropriate carrier immediately. If undamaged, open the package and inspect the device for obvious damage. Return damaged products.

- Requirements**
- Tools (*not provided*)
    - Digital Volt-ohm Meter (DVM)
    - Appropriate screwdriver for mounting screws
    - Appropriate drill and drill bit for mounting screws
  - Appropriate accessories
  - Two #8 self-tapping mounting screws (*not provided*)
  - Training: *Installer must be a qualified, experienced technician.*

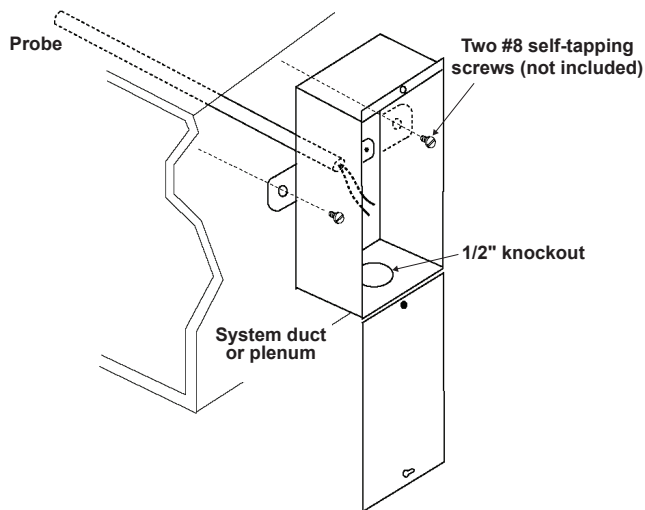
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### Mounting

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

**TE-705:** Refer to **Figure 2** for mounting dimensions.

1. Drill a 7/16-inch (11 mm) hole into the duct where the sensor will be installed.
2. Gently uncoil the sensor's rigid probe and insert it into the duct.
3. Use the flange as a template to mark and drill two holes for the #8 self-tapping sheet metal screws (*not provided*).
4. Fasten the sensor to the duct with the sheet metal screws. Refer to **Figure 1**.



**Figure 1 - Installing the TE-705 Sensor**

### CHECKOUT

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

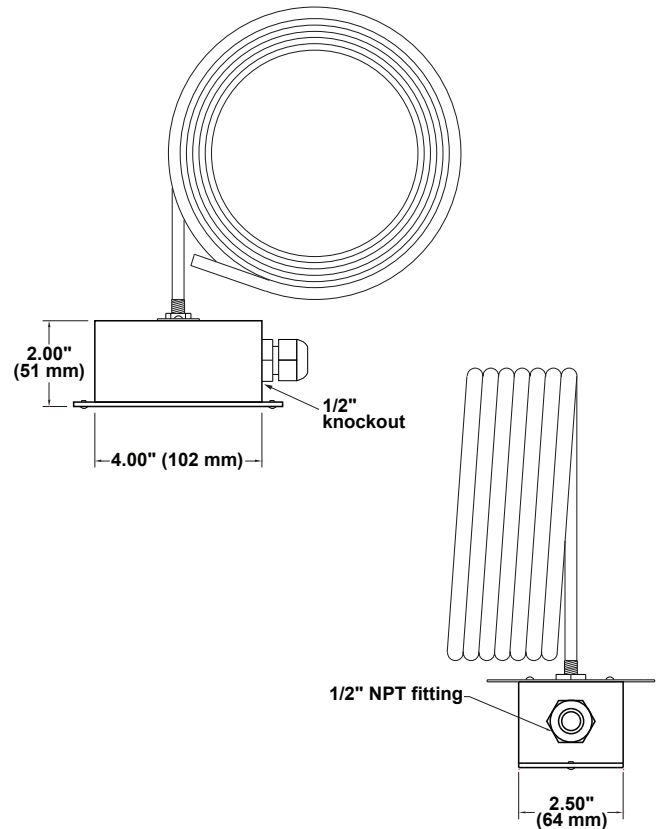
1. Disconnect the sensor lead wires from the controller.
2. Connect an ohmmeter across the lead wires.
3. Ensure that nominal resistance measurements are in accordance with the resistance/temperature curves. (Refer to **Tables 1 & 2**. For complete **Resistance vs. Temperature** tables, please refer to **TI.700-11** - Temperature Sensor section.)
4. Reconnect sensor lead wires to the controller.
5. Check operation of the complete control system.

**MAINTENANCE** Regular maintenance of the total system is recommended to assure sustained optimum performance.

**FIELD REPAIR** None. Replace with a functional unit.

### DIMENSIONAL DATA

**Figure 2 - TE-705 Duct Averaging Temperature Sensor dimensions shown in inches and millimeters (mm).**



For Technical / Application Assistance call your nearest office

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