

# RTD-500-3

## Temperature Sensor

### Product Specifications

#### Application . . .

##### Electric Heat Tracing Control

The RTD-500-3 is designed for use as control input for freeze protection and temperature maintenance applications requiring pipewall or tankwall temperature sensing.

The RTD temperature sensor allows ease of field wiring with conventional heat tracing connection kits. Adaptable for use with a variety of enclosure and mounting methods.

The RTD-500-3 is suitable for use in heat tracing applications where surface temperatures do not exceed 500°F (260°C).

#### Ratings/Specifications . . .

RTD lead wire.....	24 AWG Kapton insulated (with stainless steel braid)
RTD leads length.....	6' long (1.83 m)
RTD type.....	3-wire platinum thin film
RTD resistance.....	100 ohms at 32° (0°C)
RTD calibration	Per ASTM E1137, DIN standard 43760/BS1904/IEC 751
Temperature coefficient.....	0.00385 Ohms/Ohms - °C
Maximum sensor temperature.....	500°F (260°C)
Sensor housing material .....	T304SSl
Bulb dimensions .....	0.1875" dia. x 3" long (4.76 x 76 mm)



#### Construction . . .

- 1 RTD Sensing Bulb
- 2 Lead Wire 6' (1.8 m)

#### Options . . .

Contact Thermon for longer RTD lead wires or other options.

#### Certifications/Approvals . . .



##### Canadian Standards Association

The RTD-500-3 is CSA certified for use in North America.  
Ordinary Locations  
Hazardous (Classified) Locations  
Class I, Division 2, Groups A, B, C and D  
Class II, Division 2, Groups E, F and G



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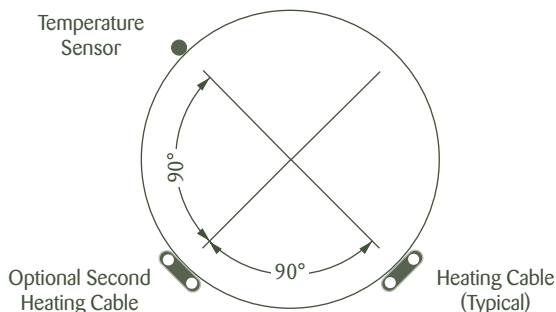
## Temperature Sensor

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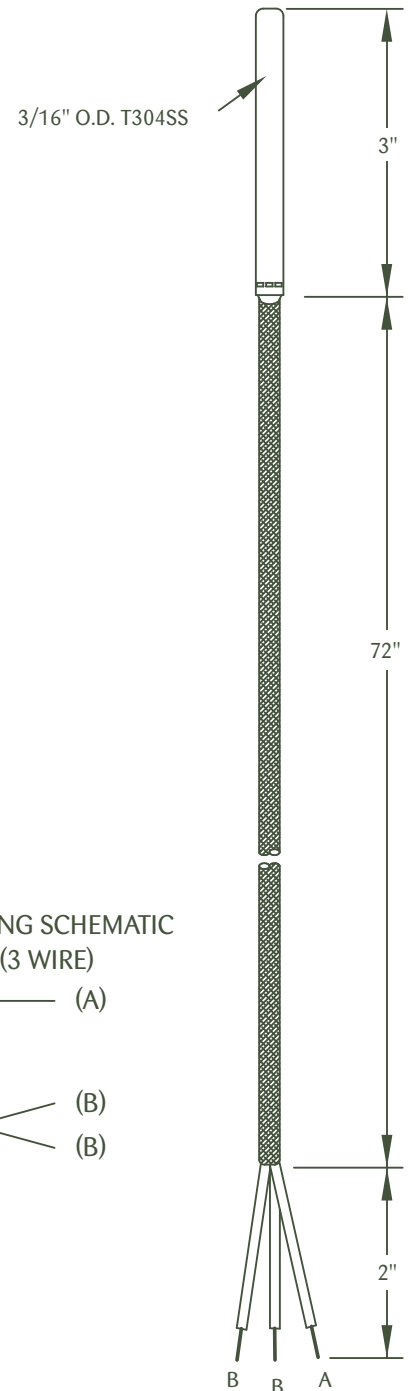
The following installation procedures are suggested guidelines for the installation of a Thermon temperature sensor. They are not intended to preclude the use of other methods utilizing accepted engineering or field construction practices. Temperature sensors are used for freeze protection or temperature maintenance of piping, tanks and instrumentation.

### Temperature Sensor Installation . . .

1. Upon receipt, check to make sure the proper type has been received.
2. Store in a dry place.
3. Ensure that temperature sensor/junction box combination is suitable for the area classification.
4. Mount the temperature sensor/junction box vertically upright and in a position that will prevent condensation from draining into the enclosure from the connected conduit.
5. The sensor should be placed at least 90° around the circumference from the heating cable, or at least 2" (5 cm) from the cable. Mount the sensor in a location that is representative of the overall system temperature away from valves, pipe supports, nozzles, or other heat sinks. Fasten the temperature sensor securely to the pipe/vessel with fiber or metallic tape, being sure that the entire length of the sensor is in intimate contact with the pipe surface. The sensor may be covered with a parallel pass of metallic tape to enhance heat transfer. Prevent kinking.
6. **Power should always be disconnected and a lockout/tagout procedure performed prior to opening the box enclosure for maintenance.**
7. Any modification to the enclosure or deviation from these procedures may affect unit's rating or approvals. Contact factory if modifications are necessary.



Heating Cable vs. Sensor Location (Line Sensing Control)



### WIRING SCHEMATIC (3 WIRE)

