



# TM-950

## Open Thermistor Sensor

Instruction Bulletin No. 243666

**Operating Principle:** The Gems TM-950 is an Open Thermistor Sensor ideal for temperature sensing in non-conductive liquids, such as oil and refrigerants. It utilizes a proprietary fused glass hermetic seal, an axial feedthrough design to provide exceptional high pressure, and direct temperature sensing capability.

**Installation:** Do not tighten more than 1 1/2 turns past hand-tight. Use of a thread sealant or Teflon tape is recommended. To ensure proper contact is maintained between the sensor and a metal vessel, care should be taken not to over-insulate the sensor threads with sealant or tape.

**Maintenance:** These compact, solid-state sensors have no moving parts, and therefore require no maintenance or calibration.

### Specifications

<b>Temperature Capability</b>	-40°F to 250°F (-40°C to 125°C)
<b>Referenced Temperature Range</b>	-32°F to 100°F (0°C to 38°C)
<b>Setting Tolerance</b>	±6°F (±3°C) @75°F
<b>Wetted Parts:</b>	
<b>Housing</b>	Zinc Plated Steel
<b>Thermistor</b>	Ceramic, Tinned Copper
<b>Fused Hermetic Seal</b>	Soda Lime Glass
<b>Spacer Disc</b>	PTFE
<b>Electrical Termination</b>	Flying Leads IP65, 18 AWG PTFE Insulated, 6.5"
<b>Maximum Pressure</b>	450 PSIG <sup>1</sup>

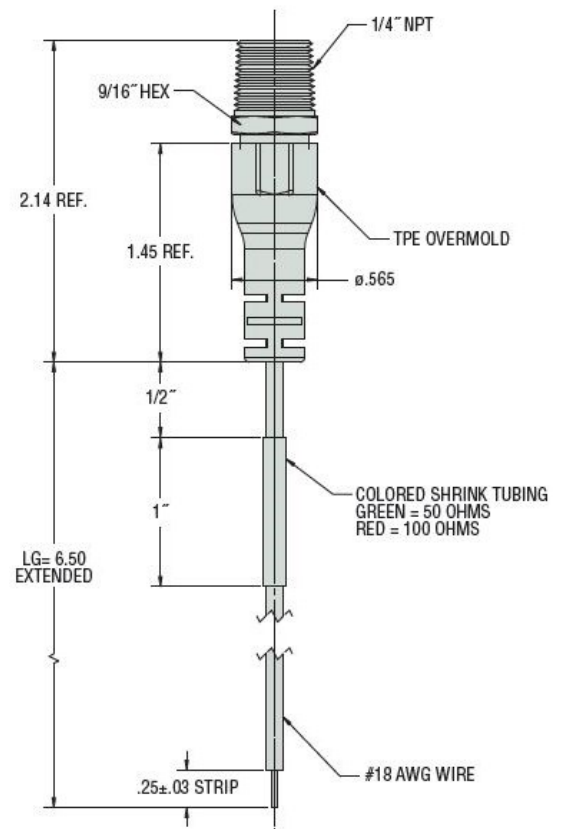
<sup>1</sup>Higher Pressure Capability Available Upon Request.

### How to Order

Select based on Thermistor, Nominal Value and Shrink Tubing Color.

Nominal Thermistor Value	Shrink Tubing Color	Part Number
50 Ohm	Green	243650
100 Ohm	Red	243700

### Dimensions



#### Important Points:

Gems products must be maintained and installed in strict accordance with the National Electrical Code and the applicable Gems product instruction Bulletin that covers installation, operation, and proper maintenance. Failure to observe this information may result in serious injury or damages. For hazardous area applications involving such things as, but not limited to, ignitable mixtures, combustible dust, and flammable materials, use an appropriate explosion proof enclosure or intrinsically safe interface device.

Please adhere to the pressure and temperature limitations shown throughout this catalog for our level and flow sensors. These limitations must not be exceeded. These pressures and temperatures take into consideration possible system surge pressures/temperatures and their frequencies. Selection of materials for compatibility with the media is critical to the life and operation of Gems products. Take care in the proper selection of materials of construction, testing is required.

Our sensors have been designed to resist shock and vibration. However, shock and vibration should be minimized.

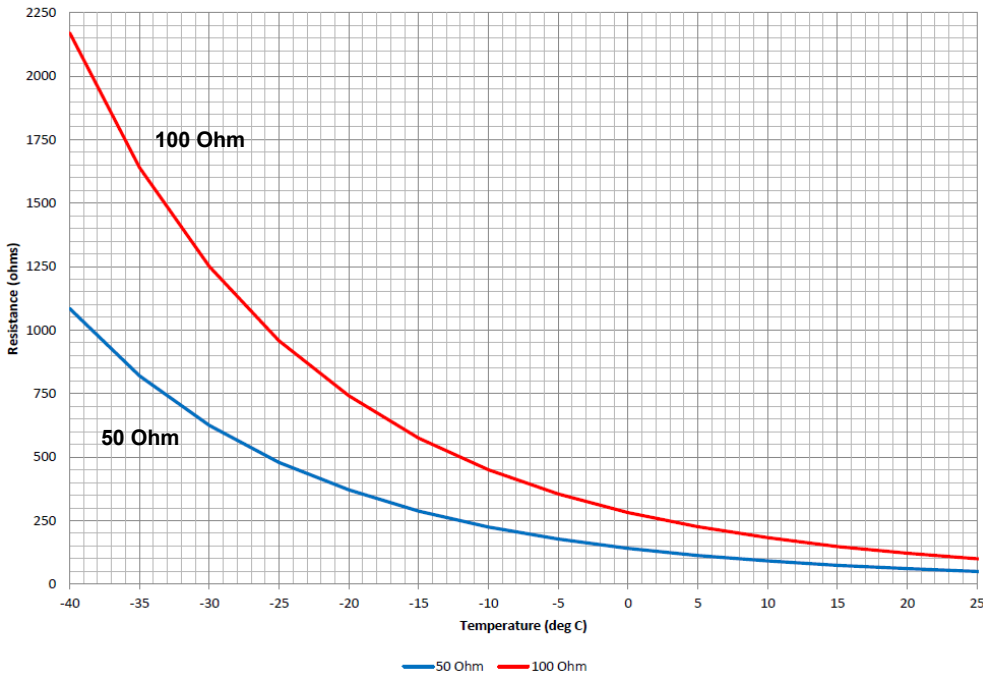
Filter liquid media containing particulate and/or debris to ensure the proper operation of our products.

Electrical entries and mounting points in an enclosed tank may require liquid/vapor sealing.

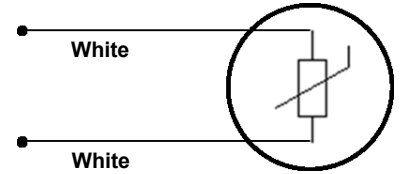
Our sensors must not be field-repaired.

Physical damage sustained by product may render it unserviceable.

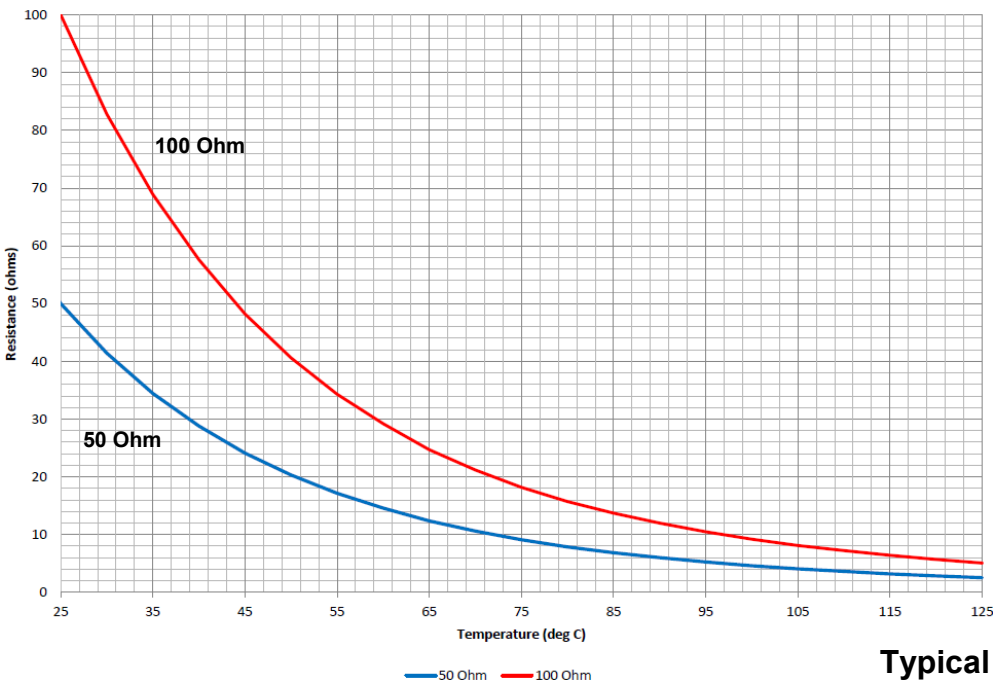
**Temperature Curve, -40 C to 25 C**



**Wiring Diagram**



**Temperature Curve, 25 C to 125 C**



**Sensor Color Codes**

Color Code	Sensor Type
Green	50 Ohms
Red	100 Ohms

**Typical Resistance Values at Referenced Temperature**

Media Temperature	Resistance Reading NTC	
	Green (50)	Red (100)
@32°F (0°C)	124.0-161.0	242.1-321.0
@75°F (24°C)	48.5-59.5	97.0-121.0
@90°F (32°C)	31.5-42.5	65.6-87.0

**Return Policy**

Returns are accepted on stock items up to 30 days from date of order. You must contact our Returns Department for a Return Authorization (RA) number. Return the goods—freight prepaid—in the original container and include original packing slip. COD returns are not accepted. Gems reserves the right to apply restocking charges.



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