Littelfuse offers a broad range of thermistors, RTDs, probes and assemblies for demanding temperature sensing applications worldwide. Recognized for their accuracy and long-term reliability, Littelfuse thermistors and RTDs are the sensor of choice for diverse markets such as Industrial Controls, Medical Electronics, HVAC-R, Aerospace, White Goods and Food Handling.

**Thermistor Probes and Assemblies**
Littelfuse probe assemblies are invaluable for sensing temperature in a variety of industries. Standard and customized probe assemblies offer very precise and extremely reliable thermal monitoring in the most demanding applications.

**Capabilities**
- Custom Probe Assemblies
- High Precision Thermistors
- Custom R-T Curves
- R-T Curve Matching
- Moisture Resistant Sensors
- Prototyping
- Extensive Quality Testing
  - Including:
  - Salt Water Immersion
  - Freeze/Thaw Temp Cycling
  - Thermal Shock
  - Sinusoidal Vibration

**NTC and PTC Thermistors**
Littelfuse leaded thermistor options include the highly accurate precision interchangeable thermistors as well as high temperature axial leaded glass encapsulated thermistors and glass coated radial leaded chip thermistors.

**Chip and MELF Style Thermistors**
Littelfuse surface mount thermistors are manufactured using the most advanced equipment and technology available. They are available in a variety of sizes and configurations suitable for mounting using solder, wire bond or epoxy.

**Temperature Sensor RTDs**
Littelfuse leaded RTDs exhibit a nearly linear temperature-resistance curve as well as high accuracy over a very wide temperature range. Their unique characteristics result in a device especially suitable for use in extreme environmental conditions.

**Are you sensing temperature?**
- What is your application?
- Are you currently using a temperature sensor?
- Do you have a drawing or part number to cross?
- What style part do you require (SMT, Leaded, Probe)?
- What is the environment to which the sensor will be exposed?
- What is the operating temperature range of your application?
- What base resistance value is required?
- What tolerance or accuracy is needed?
# Littelfuse Temperature Sensor Selection Chart

<table>
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<tr>
<th>Sensor Element Type</th>
<th>Characteristics</th>
<th>Typical Operating Temperature Range</th>
<th>Typical Resistance Value Options</th>
<th>Accuracy Options</th>
<th>Package Styles</th>
<th>Key Advantages</th>
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<tbody>
<tr>
<td>NTC Thermistors</td>
<td>Exhibit a decrease in electrical resistance when subjected to an increase in body temperature</td>
<td>-80°C to +300°C</td>
<td>100Ω up to 5MΩ @ 25°C</td>
<td>±0.05°C to ±1.0°C over wide temp ranges</td>
<td>Leaded: Glass Encapsulated Axial Leads&lt;br&gt;Epoxi Coated-Radial Leads&lt;br&gt;Glass Coated-Radial Leads&lt;br&gt;Encapsulated in a Probe Assembly</td>
<td>• Cost efficient&lt;br&gt;• Excellent long-term stability&lt;br&gt;• Fast thermal response&lt;br&gt;• Wide range of styles available</td>
</tr>
<tr>
<td>Pt-RTDs</td>
<td>Exhibit a positive, predictable and nearly linear change in resistance when subjected to a corresponding change in their body temperature</td>
<td>-50°C to +500°C</td>
<td>100Ω, 500Ω, 1000Ω @ 0°C</td>
<td>±0.06% to ±0.24% at 0°C</td>
<td>Radial Leaded&lt;br&gt;SMT&lt;br&gt;Encapsulated in a Probe Assembly</td>
<td>• Nearly linear output&lt;br&gt;• High accuracy&lt;br&gt;• High temperature capability</td>
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## Typical Applications

<table>
<thead>
<tr>
<th>HVAC/R</th>
<th>Food Service</th>
<th>Alternative Energy</th>
<th>Medical</th>
<th>White Goods</th>
<th>Industrial</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Residential &amp; Commercial A/C&lt;br&gt;• Chilled Water Systems&lt;br&gt;• Outdoor Temperature Sensors&lt;br&gt;• Condenser, Evaporator &amp; Duct Sensors&lt;br&gt;• Instant Water Heaters</td>
<td>• Commercial Coffee Makers&lt;br&gt;• Hot/Cold Beverage Dispensers&lt;br&gt;• Food Thermometers&lt;br&gt;• Walk-in &amp; Reach-in Refrigerators/Freezers&lt;br&gt;• Temperature Controlled Display Cases</td>
<td>• Hydrogen Fuel Cell Sensors&lt;br&gt;• Battery Fuel Gauges&lt;br&gt;• Solar Panel&lt;br&gt;• Geothermal</td>
<td>• Blood Analysis Equipment&lt;br&gt;• Infant Incubators&lt;br&gt;• Skin Temperature Monitors&lt;br&gt;• Blood Dialysis Equipment&lt;br&gt;• Patient Warming</td>
<td>• Oven Temperature Control&lt;br&gt;• Consumer Refrigerators/Freezers&lt;br&gt;• Washing Machines&lt;br&gt;• Clothes Dryers&lt;br&gt;• Water Heaters</td>
<td>• Fluid Flow Measurement&lt;br&gt;• Crystal Ovens&lt;br&gt;• Welding Equipment&lt;br&gt;• Industrial Process Controls</td>
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