



Application Spotlight

Surgical Temperature Sensors

Surgical and anesthesia effects on thermoregulation by the human body increase the need for temperature monitoring during these critical procedures. Common examples include measuring temperature of the myocardium during open-heart surgery, cells during laser ablation, or the laser surgery instrument itself for improved performance and patient comfort.

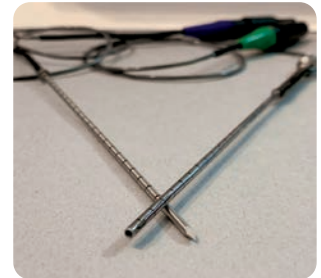
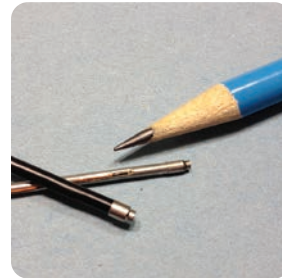


How do we help?

Amphenol Advanced Sensors carries an extensive line of miniature chip-in-glass or sleeved chip thermistors with fine diameter wires for insertion into hypodermic needles for myocardial surgeries and external attachment to metal lumens used during laser surgery. Our Types SC, MA, and A040 interchangeable NTC chip thermistors are designed with small packages for rapid response while maintaining superior accuracy. Amphenol Advanced Sensors can incorporate these NTC thermistors into customer specific designs, providing a robust construction and ensuring long life in harsh clinical environments. This combination allows the assembly to achieve an accurate temperature, delivering critical diagnostic information.

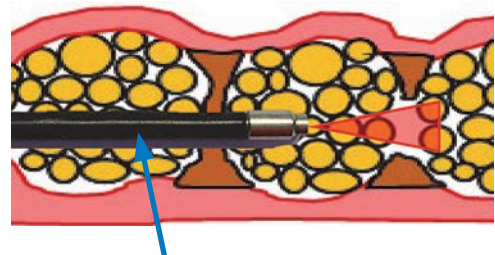
What makes us better?

In addition to our catalog offerings, Amphenol Advanced Sensors prides itself in our ability to customize a unique solution for each customer. Our attention to thermodynamic properties in the assembly design is critical for matching a customer's measurement protocol. Whether providing a NTC thermistor, sub-assembly, or fully completed device, our team is ready to partner with you.



Application Example: Cosmetic Laser Surgery

- Laser inserted under skin uses heat to release the fiber spans that pull down on the skin creating a smoother look.
- The thermistor feedbacks temperature to adjust the laser energy for a more efficient procedure and patient comfort.



Thermistor location

Amphenol

Advanced Sensors

NTC Thermistor Product Offerings for Surgical Assemblies

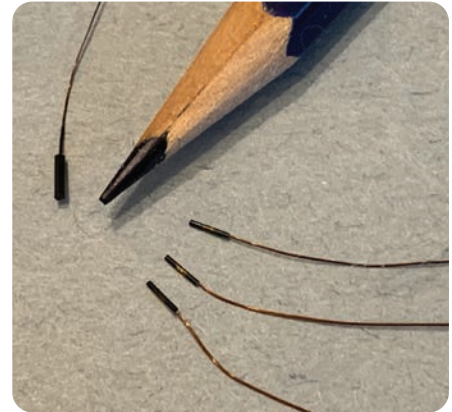
Type GC Series

- Product prefix: GC
- Nom OD: 0.011" / 0.014" / 0.016" / 0.032"
- Resistance range at 25°C: 1K to 200K ohm
- 14K ohm at 37°C "catheter" curve available
- Hermetically sealed in glass
- Type AB style assembly compatible



Type SC Series

- Product prefix: SC
- Max OD: 0.032" / 0.050"
- Resistance range at 25°C: 2252 (400 Series) to 50K ohm
- Interchangeability:
 - $\pm 0.05^{\circ}\text{C}$ from 35°C to 39°C (A tolerance)
 - $\pm 0.1^{\circ}\text{C}$ from 0°C to 70°C (V tolerance)
 - $\pm 0.2^{\circ}\text{C}$ from 0°C to 70°C (W tolerance)
- Insulated leads



Type A040 Series

- Product prefix: A040
- Max OD: 0.020 in.
- Resistance at 25°C: 2252 ohm (400 Series) and 10K ohm
- Interchangeability: $\pm 0.2^{\circ}\text{C}$ from 10°C to 40°C
- Insulated leads

Medical Disclaimer "You are hereby advised that Amphenol Advanced Sensors has not performed any biocompatibility or clinical testing of these products. The responsibility to ensure that all products comply with all applicable federal, state, and local laws lies with the OEM manufacturer or user."

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Advanced Sensors

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