



## NICE TO MEET YOU

QTI is a privately-held manufacturer of temperature sensors and assemblies. Founded in 1977, we have grown to be the trusted supplier of temperature sensing solutions for many world leaders in equipment manufacturing. Our products can be found in a wide variety of applications, from medical catheters to industrial refrigeration equipment to the Curiosity Mars rover.

### Why choose QTI? We...

- **ARE THE EXPERTS IN THERMISTOR MANUFACTURING**  
QTI designs and manufactures the thermistors used in our probes so we know with certainty that our customers receive the most accurate and reliable sensors available.
- **TEST 100% FOR ACCURACY**  
All of the temperature probes manufactured by QTI are 100% inspected for accuracy. Calibration data is available as an option on all of the probes we manufacture.
- **CARE ABOUT THE DETAILS**  
Our proprietary manufacturing processes and the materials we use ensure proper sensor placement to optimize thermal time response and minimize thermal load on the sensing element.
- **PROVIDE DESIGN ASSISTANCE**  
While we trust that the information provided in this guide will assist you, there is no substitute for one-to-one dialogue. We encourage you to contact us to discuss specific design, sales, or customer support needs.
- **MANUFACTURE IN THE USA**  
We own all of our facilities, allowing production schedule flexibility and control of all processes and materials. Our thermistors are precision manufactured in the USA.



**Qti**  
Sensing Solutions

MEDICAL SENSING  
CAPABILITIES GUIDE

### Why use a thermistor?

- **ECONOMICAL COST**  
Thermistors are the economical choice in temperature sensing. Not only are they less expensive to purchase, but there are no calibration costs during installation or during the service life of the sensor. In addition interchangeable thermistors can be swapped out without calibration.
- **QUICK TEMPERATURE RESPONSE**  
Due to their small size, thermistors can respond very quickly to slight changes in temperature.
- **NO CALIBRATION REQUIRED**  
Properly manufactured thermistors are aged to reduce drift before leaving the factory. Therefore, thermistors can provide a stable resistance output over long periods of time.
- **GREATER ACCURACY AND RESOLUTION**  
Thermistors are available with base resistances (at 25°C) ranging from tens to millions of ohms. This high resistance reduces the effect of resistance in the lead wires, which can cause significant errors with low resistance devices such as RTDs.

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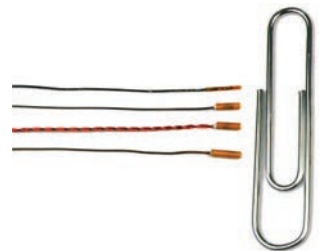
2108 Century Way  
Boise, Idaho 83709

Phone: (208) 377-3373  
Toll-Free: 800-554-4784  
Email: [qtisales@thermistor.com](mailto:qtisales@thermistor.com)  
Website: [www.thermistor.com](http://www.thermistor.com)



### POINT-MATCHED AND INTERCHANGEABLE NTC ELEMENTS

NTC elements are quite versatile.



### MINI AND MICRO NTC

Use mini or micro thermistors if sensor size, lead length or consistent tip size are critical.



### MICROBEAD THERMOCOUPLE

The microbead thermocouple is a cost effective solution for temperature measurement.



### USB THERMOMETER

Capture temperature data in real time with the DirectTemp™ USB thermometer.



### MULTI-USE MEDICAL PROBE

Small and versatile, this sensor can be customized for a variety of applications.



### RESPIRATORY CIRCUIT SENSOR

QTI's respiratory circuit sensor is compatible with a range of adult and infant respiratory circuits.



### LUER LOCK SENSOR

This sensor features single or dual thermistors (for redundancy).



### STAINLESS STEEL PROBES

From "bullet" to hypodermic probe styles, stainless steel is durable and highly customizable.

## ELEMENTS

- Available in a variety of wire types and lengths
- Available with uninsulated or insulated leads
- Interchangeable and point-matched tolerance options
- Fast response time
- Tolerances as tight as +/- 0.05°C
- RoHS compliant parts available
- Ideal for temperature control of heaters or electric motors

- Highly customizable
- Fast response time
- Sized 0.023", 0.031" and 0.037" in diameter
- Available in interchangeable or point-matched tolerances
- Easily installed in hypodermic and other probe housings
- Polyimide tube provides dielectric barrier
- RoHS compliant

- Used in catheter, sleep apnea, laser liposuction, ablation and other applications
- Ideal for use where small size is critical
- Typical wire size #40, 44 AWG
- Thermocouple types "T" and "K" most common. Other types available
- Cost effective
- Medical-grade construction

## DIRECTEMP™

- USB connection allows for plug and play
- Senses temperature in real time
- Probe and cable configurable to meet unique sensing needs
- NIST traceable, certification available upon request
- Accurate up to +/- 0.05°C
- System includes data logging and alert notification software
- Data exportable as an Excel file for permanent record
- System able to run multiple sensors simultaneously

## PROBES

- Vinyl cap NTC
- Easily insertable into catheters
- 400 and 700 series compatible
- Ideal for applications that require a small sensor
- Interchangeable (no calibration required)
- Highly accurate
- RoHS compliant

- Designed for use with infant or adult respiratory circuits
- Light weight
- Highly accurate

- Compatible with standard luer fittings
- Available with two thermistors for redundancy
- Stainless steel probe
- Used in a wide variety of medical applications from organ transport to blood oxygenators

- Durable construction
- Metal probe easily configurable with a variety of probe styles
- Sensor type and accuracy, cable length and connector can be customized
- Cost efficient

Looking for a different configuration? Contact us about customizing a part for you.

Call 800-554-4784 or email [qtisales@thermistor.com](mailto:qtisales@thermistor.com). Manufactured in the USA.