Sensing Solutions

QTI Sensing Solutions 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 SENSING SOLUTIONS? 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 here 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.

Sensing Solutions

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MADE IN THE USA

HVAC/REFRIGERATION SENSOR LINE

There is an increasing need for dependable, cost-effective sensors for use in HVAC and Refrigeration equipment and building automation. QTI Sensing Solutions has over 30 years of experience partnering with large and small OEMs to deliver cost-effective and high-quality solutions tailored to their temperature sensing needs. Our HVAC/R line includes temperature sensors suitable for a wide range of applications, such as humidifiers, air handlers, evaporator fins, and cabinet temperature applications.

HVAC/R SENSOR LINE FEATURES

- Sensors for a wide variety of HVAC/R applications, from discharge lines and cabinet temperature to air ducts and plenums
- Sensors and assemblies can be customized
- QTI's HVAC/R sensor line is made to withstand harsh environmental conditions
- Value-added options, such as sensor clip mounts, connectors, and cable assemblies, are available

SENSOR THERMAL SHOCK IN HVAC/R ENVIRONMENTS

Freeze/thaw cycles, while necessary for energy-efficient refrigeration equipment, create harsh conditions for temperature sensors. Legacy sensor designs often fail due to the dramatic temperature swings and moisture these thermal cycles create. In fact, thermal shock is one of the primary sources of temperature sensor failure in HVAC and refrigeration environments.

As part of the development process for HVAC/R sensors, QTI Sensing Solutions conducts extensive testing in order to find and correct potential points of failure. QTI Engineering is always pushing the limits on improved sensor design and effective test methods to ensure that the products that reach customers are second to none. QTI Engineering uses their knowledge of applications along with the information gained from customer visits to develop the most robust sensor solutions along with the optimal test routines for in-house quality control.

(Left) QTIP68 and QTSSP temperature sensors during QTI Engineering's in-house thermal cycle testing.

VALUE-ADDED OPTIONS

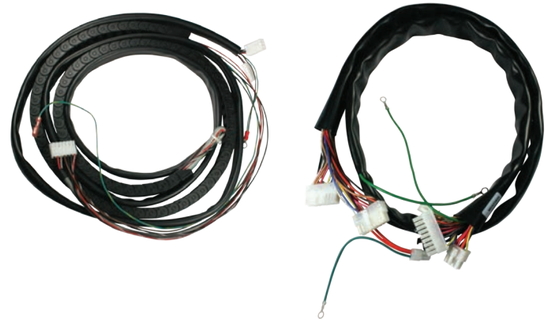
CLIP MOUNT

Save installation time and improve the performance of QTIP68 and QTSSP sensors by clipping them to copper tubing. Our standard clip made from stainless steel is compatible with copper tubing. A variety of clip sizes are available to suit most refrigeration appliances.

Clip sizes available: 1/4", 3/8", 1/2", 5/8", 7/8", and 1 1/8". 1/4" and 3/8" clips are 0.38" wide. Other clips are 0.625" wide.

CABLE ASSEMBLIES

QTI's cable and cable assemblies incorporate the latest materials science to meet rigorous electrical, mechanical, and environmental requirements. Our cables are engineered for the most demanding applications to offer the highest-in-class performance. They are valued in multiple industries for delivering signal integrity and mechanical robustness in the harshest environments.



WATERPROOF SENSORS

HYDROGUARD QTIP68

- Double insulated thermoplastic rubber
- Ruggedized housing, corrosion resistant cable
- Waterproof rating to IP68
- Based on the most common industry NTC thermistor curves
- Ideal for harsh freeze/thaw cycles
- Possible applications: refrigeration and air conditioning equipment and high humidity environments
- Optional clip mount for easy installation on copper tubing (see "Clip Mount")
- Cable color and thermistor resistance values customizable

QTSSP SWAGE

- Robust sensor for a broad range of sensing applications
- Operating temperature range: -40˚C to 105˚C (-40˚F to 221˚F)
- Ideal for industrial applications where response time is crucial
- Swaged end provides cable strain relief and improves moisture resistance
- QTI-manufactured thermistor (made in the USA) provides unrivaled accuracy, stability, and reliability
- Optional clip mount for easy installation on copper tubing (see "Clip Mount")

AIR SENSORS

SNAP-IN AIR SENSOR

- Typical wire sizes #22-26 AWG
- Material: stainless steel or nickel plated brass
- Incorporated press-in clip for easy installation and greater sensor accuracy
- Ideal for air temperature sensing in HVAC applications (install in plenums or blower housings)
- Available in several thermistor curves and resistances

MULTI-PURPOSE SENSORS

FLANGED OPEN/CLOSED TIP

- Available in a variety of sizes with or without brazed flange
- Flange can be screwed or riveted in place
- Typical wire sizes #22-28 AWG
- Material: stainless steel
- Flange style, cable length, connector, and terminations can be customized
- Available in multiple thermistor accuracies and values

PIPE AND SAE THREADED FITTING WITH TUBE

- General purpose, rugged high-pressure design
- Typical wire sizes #22-28 AWG
- Material: stainless steel, brass, titanium
- Straight thread option with or without O-rings
- Threads allow for simple sensor installation
- Sensor type and accuracy, connector, and cable length can be customized

CLOSED END TUBE

- Versatile multi-purpose sensor
- Standard size is 0.040" to 0.250" in diameter
- Typical wire sizes #22-32 AWG
- Material: stainless steel, brass, titanium, Iconel, Hastelloy
- Moisture resistant
- Termination type, cable length, housing style, and wire style can be customized
- Available in multiple thermistor accuracies and values