

December 2005

Moore Industries' Temperature Measurement Solutions and Hi-Tech STAR Team are specifically geared to serve demanding industries like yours.

Semiconductor • Micro-Electronics Pharmaceuticals • Biotech

Our facility and process temperature monitoring systems deliver the performance you need to stay on top, at prices that will fit your budget. Backing up our instruments are the experts on our Hi-Tech STAR Team. Each is specially trained to meet your technical, service and delivery needs.

System Technical Advantages Include:

- **Superior Accuracy.** Our highly accurate, intelligent transmitters, combined with our precision 4-wire platinum RTD sensors, assure you'll achieve unbeatable total system accuracy.
- **Fast and Easy Calibration.** In a minute or less, you can select all operating parameters, including any two calibration points, and have our PC-programmable and HART®-programmable monitoring systems up and running.
- **Minimal Maintenance.** Reliable, long-term stability reduces scheduled calibrations and the maintenance costs associated with them.
- **Reduced Troubleshooting Time.** Our systems detect a sensor problem and alert you if there's trouble. Messages displayed on our PC Configuration Software help you identify what the problem is and where it has occurred.

Why is Reliable Temperature Measurement Important?

In numerous hi-tech applications, maintaining stable facility and process temperature conditions is a primary ingredient for on-spec product and predictable yields. Measurement errors that seem negligible, may be eating into your profits. At best, inaccuracies will degrade process efficiency; at worst, errors can ruin expensive in-process product or cause machinery and lab equipment to erratically drift in and out of tolerance. In today's competitive environment, no one can afford this.

Look to Moore Industries for temperature measurement solutions designed for demanding applications just like yours.



Our systems reliably monitor ambient and process temperature conditions in manufacturing operations, machine tools, cleanrooms, laboratories, storage and production facilities.

Service Advantages Include:

Value Pricing

You'll be pleasantly surprised that universal operation, intelligent diagnostics, quick installation, superior accuracy and effortless calibration come so reasonably priced.

Fast Delivery

We'll ship your orders for standard products within 3 weeks... **let us know if you need it even faster!**

Expert and Responsive Service

Our Hi-Tech STAR Team is ready to assist you with application, product and quotation questions. Our global network of sales engineers are eager to meet with you, and help find solutions to your individual temperature applications.

Customized Systems

We specialize in customizing our temperature monitoring systems to meet your specific process or environmental monitoring requirements. **If you don't see it here, please ask!**

Precision Factory Calibration

For demanding applications, we offer factory calibration services that substantially enhance temperature measurement performance (see page 3 for details).

Temperature Solutions for Monitoring Facilities

Wall/Duct Mount Temperature Assembly for Monitoring Cleanrooms & Air Ducts

Accuracy: $\pm 0.075\%$ of span within 0 to 200°F (-18 to 93°C) range, 50° span minimum (with -VTB option, see page 3)

System Includes:

- PC-Programmable Temperature Transmitter with 4-20mA output rangeable using PC Configuration Software
- High accuracy (0.06% of span) RTD, 4-wire, platinum, 1000 ohm, alpha = 0.00385, SS316 sheath material
- NEMA 4X, IP66 transmitter connection head with surface mounting plate

To Order, Specify:

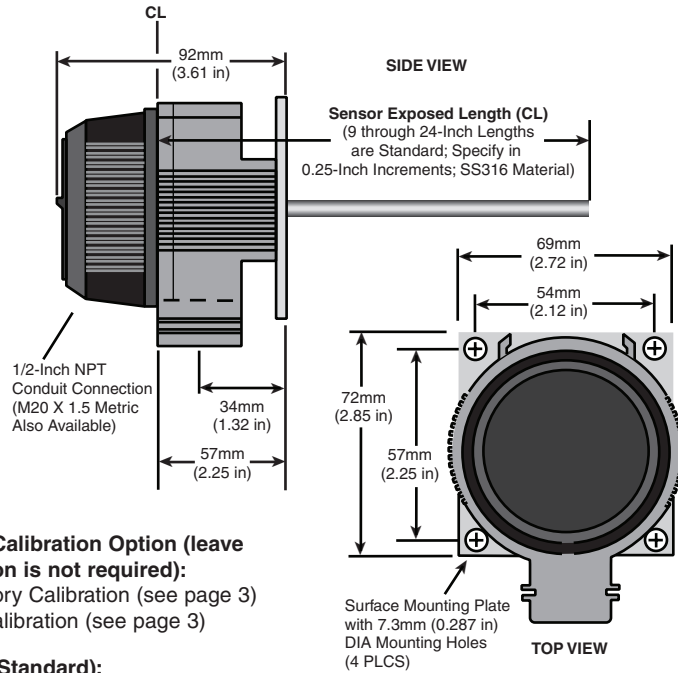
? / CL? / D25 / S316 / -PT104 -.06 ? [LH1NX]

Replace ? with Factory Calibration Option (leave blank if factory calibration is not required):
 -VTB High Accuracy Factory Calibration (see page 3)
 -VTD Standard Factory Calibration (see page 3)

Replace ? with Sensor Length (9-24 inch lengths are Standard):
 Specify in 0.25-inch increments (e.g., CL9, CL11.25, CL15.75)

Replace ? with Transmitter Type:

- TRY Isolated, PC-Programmable Transmitter
- TRX Non-Isolated, PC-Programmable Transmitter
- THZ Isolated, Smart HART® and PC-Programmable Transmitter



Model Number Example:

TRX / CL18 / D25 / S316 / -PT104 -.06 -VTB [LH1NX]

Wall-Mount Room Air Temperature Monitoring System

Accuracy: TRY/TRX: $\pm 0.075\%$ of span within 0 to 200°F (-18 to 93°C) range, 50° span minimum (with -VTD option, see page 3); T2X: $\pm 0.1\%$ of span within -328 to 1562°F (-200 to 850°C) range.

System Includes:

- PC-Programmable Temperature Transmitter with 4-20mA output rangeable using PC Configuration Software
- TRY/TRX: High accuracy (0.06% of span) RTD, 4-wire, platinum, 1000 ohm, alpha = 0.00385, polypropylene sensor sheath coating (water and oil resistant); T2X: High accuracy (0.1% of span) fixed RTD, 2-wire, platinum, 1000 ohm, alpha = 0.00385.
- Wall Box surface-mount enclosure

TRY/TRX

To Order, Specify:

? / CL1 / D18 / POLY / -PT104 -.06 -VTD [DWB]

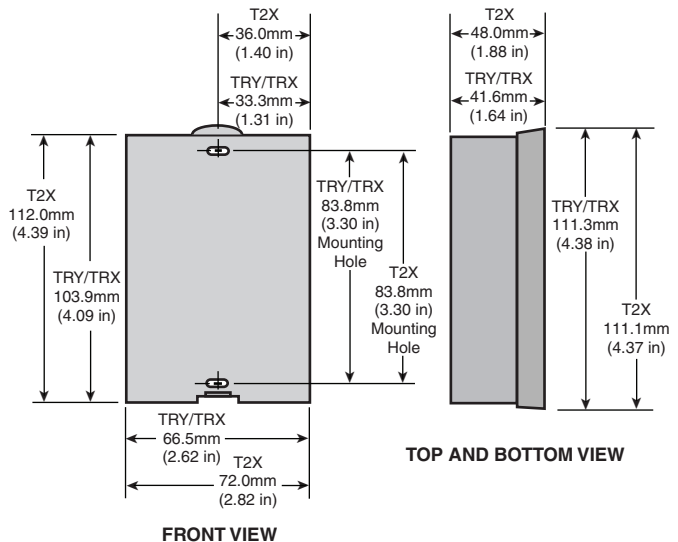
Replace ? with Transmitter Type:

- TRY Isolated, PC-Programmable Transmitter
- TRX Non-Isolated, PC-Programmable Transmitter

T2X

To Order, use the following Model Number Example:

T2X / PT10 / 4-20MA / 8-42DC [DWB]



Model Number Example:

TRX / CL1 / D18 / POLY / -PT104 -.06 -VTD [DWB]

Temperature Solutions for Monitoring Facilities

Surface-Mount Air Duct Average Temperature Monitoring System

Accuracy: $\pm 1\%$ of span within 0 to 200°F (-18 to 93°C) range, 50° span minimum (with -VTD option, see below)

System Includes:

- PC-Programmable Temperature Transmitter with 4-20mA output rangeable using PC Configuration Software
- Flexible averaging RTD Sensor (300-inch) measures temperature along its entire length, and provides a TRUE average reading to the temperature transmitter, 4-wire, platinum, 1000 ohm, $\alpha = 0.00385$, copper sensor sheath material for flexibility
- NEMA 4X, IP66 transmitter connection head with surface mounting plate

To Order, Specify:

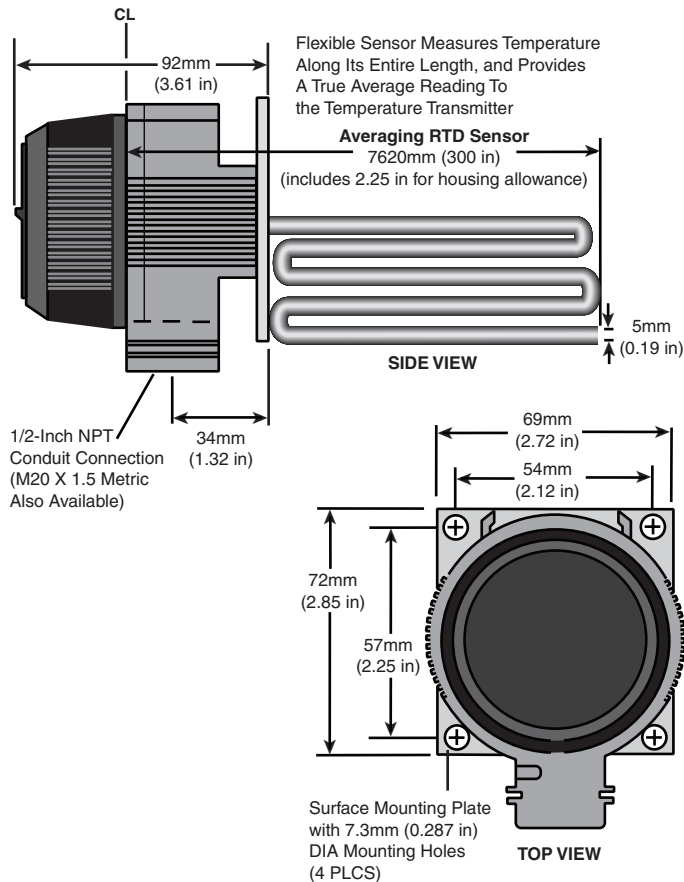
? / CL300 / D18 / CU / -PT104 -AVG -VTD [LH1NX]

Replace ? with Transmitter Type:

- TRY** Isolated, PC-Programmable Transmitter
- TRX** Non-Isolated, PC-Programmable Transmitter
- THZ** Isolated, Smart HART® and PC-Programmable Transmitter

Model Number Example:

TRX / CL300 / D18 / CU / -PT104 -AVG -VTD [LH1NX]



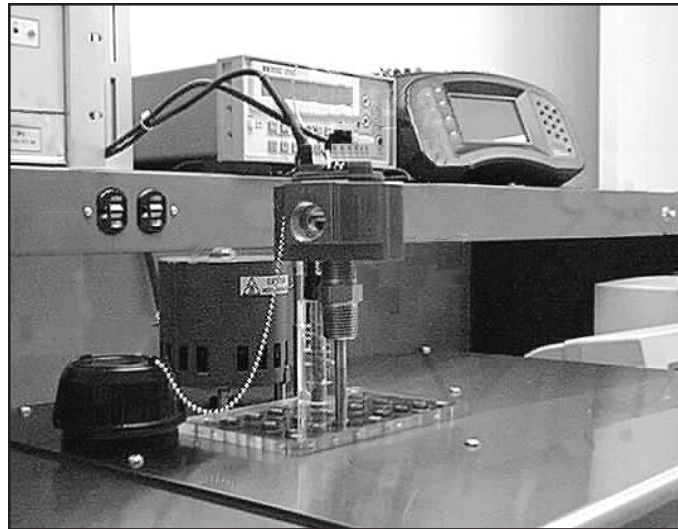
Factory Calibration Delivers Precision Accuracy, Saves Set Up Time

High Accuracy Factory Calibration (-VTB Option)

When applications demand exceptional accuracy, we recommend our **Sensor-to-Transmitter Trimming** factory calibration. Performed in our state-of-the-art “Calibration Suite”, we immerse the system’s sensor in a precision calibration bath. Then, the sensor’s true readings are “captured” by our transmitter. This method effectively compensates for errors caused by inherent sensor inaccuracies. The system is delivered configured, calibrated, and ready for installation. *National Institute of Standards and Technology (NIST) traceable test data is supplied with each system.*

Standard Factory Calibration (-VTD Option)

To save you installation time, our Standard Factory Calibration includes calibrating the system with zero and span values you supply using a precise simulated sensor input. *NIST traceable test data is supplied with each system.*



High accuracy factory calibration in our “Calibration Suite” assures that our sensor and transmitter work together to deliver an exceptionally precise representation of actual process conditions. A NIST traceable test report is supplied with each factory-calibrated system.

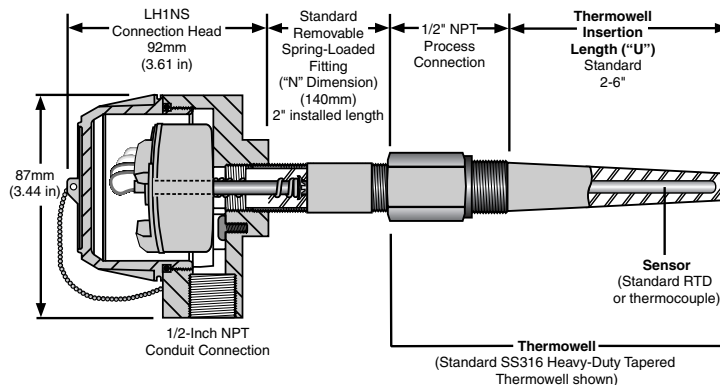
Temperature Solutions for Monitoring Process

Fluid Temperature Measurement Assembly

Accuracy: $\pm 0.075\%$ of span within 0 to 200°F (-18 to 93°C) range, 50° span minimum (with -VTB option, see page 3)

System includes:

- PC-Programmable Transmitter with 4-20mA output rangeable using PC Configuration Software
- High accuracy RTD (0.06% of span), 4-wire, platinum, 1000 ohm, $\alpha = 0.00385$
- Stainless steel thermowell and fittings
- NEMA 4X, IP66 transmitter connection head



NOTE: Standard models with fixed immersion sensors are also available. Ask for details.

To order, select one from each category:

Universal Temperature Transmitter (See TRY/TRX and THZ Data Sheets for Specifications)

- TRY** Isolated, PC-Programmable Temperature Transmitter (**standard**)
TRX Non-Isolated, PC-Programmable Temperature Transmitter (**standard**)
THZ Isolated, Smart HART® and PC-Programmable Temperature Transmitter (**standard**)

Thermowell Type

- A** Heavy-Duty Threaded, Tapered Well (**standard**)
B Standard-Duty Threaded, Straight Well (**standard**)
C Standard-Duty Threaded, Stepped Well (**standard**)

Thermowell Process Connection Size

- P2** Threaded, 1/2-Inch NPT (**standard**)
P3 Threaded, 3/4-Inch NPT (**standard**)

Thermowell Insertion Length ("U")

- U?** Replace "?" with any Insertion Length in 0.25-Inch increments (**2 through 6-inch lengths are standard**)

Lagging Extension Length ("T")

- T?** Replace "?" with length in 0.25-Inch increments (T0 standard)

Thermowell Material

- S304** SS304 (**standard**)
S316 SS316 (**standard**)

Fitting Type ("N" Dimension)

- 26-RES** Removable Spring-Load Fitting (**standard**)
26-NUR Removable Spring-Load Fitting with Union (**standard**)
26-NPL 2 1/2-Inch NPT Nipple
(26 represents .26-Inch diameter of thermowell inside bore)

Sensor Type

- WSPT104 -.06** The WORM Pt RTD; 4-Wire; 1000 ohm; $\alpha = 0.00385$ (**standard**)
-PT104 -.06 Pt RTD; 4-Wire; 1000 ohm; $\alpha = 0.00385$ (**standard**)

Options

- VTB*** High Accuracy Factory Calibration (see page 3)
-VTD Standard Factory Calibration (see page 3)
-RM Remote-mounted terminal block option. The assembly comes with two LH1NS connection heads; one contains the transmitter; the second contains a terminal block with the thermowell assembly

Connection Head

- LH1NS** Aluminum Body with PBT Polyester Cap (**standard**)

* Sensor and transmitter are calibrated without thermowell.

Don't See What You Need?

This bulletin features just a sample of the wide range of temperature assembly choices we offer.

Whatever your temperature assembly needs are, our temperature interface solution experts are ready to help!

Model Number Example:

THZ / A-P2 / U4-T0 / S316 / -26-RES -PT104 -.06 -VTB [LH1NS]

TRY / A - P2 / U4 - T0 / S316 / -26-RES -WSPT104 -.06 -VTB [LH1NS]



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