Tel-Tru Manufacturing Company

AMERICAN MADE PRODUCTS

Bimetal Thermometers

Heavy duty stainless steel thermometers are designed for industrial, pulp and paper, food and beverage processing, HVAC, and OEM applications. Tel-Tru offers the widest selection and specializes in manufacturing custom configurations and dial layouts for OEM and private label customers.

Digi-Tel™ Thermometers

Digi-Tel thermometers are Microprocessor based digital display thermometers, which use PT-1000 RTDs and are designed for high accuracy. They are preferred by food, beverage and dairy processors, and OEMs looking for accuracy. They are also used in general applications where users favor the large easy-to-read digital display for accurate temperature readings. The Digi-Tel line offers a 5 year minimum battery life and is available in direct or remote mounting configurations.

Check-Set® Thermometer Calibrators

The Check-Set series of calibrators are accuracy certified, and are a cost effective alternative to the error prone and time consuming ice bath or boiling water calibration methods. They are valued by Food Safety and Quality Assurance professionals, Instrument Technicians, and individuals responsible for thermometer calibration. Meat, Food, Dairy, and Beverage plants benefit from using Tel-Tru Check-Set Thermometer Calibrators. A factory annual re-certification and reminder service are available.

RTD and Integrated Temperature Transmitter Probes

RTD probe assemblies are designed with the most demanding industrial and sanitary applications in mind. The Integrated Temperature Transmitter is microprocessor based and uses a PT-100 RTD to give high accuracy. The design is compact, vibration resistant, sealed to protect it from the environment, and built to last. OEMs and end users in the Food, Beverage, Dairy, Refrigeration and general application industry use these assemblies.

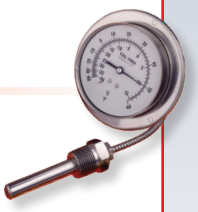
Pressure Transmitters

Pressure Transmitters are available in a wide variety of industrial and sanitary configurations with welded stainless steel housing. A few of Tel-Tru's unique configurations include: a sanitary Fractional connection; High pressure up to 100k PSI; Homogenizer with non-oil filled solid steel sensor; and a Submersible non-clogging unit. OEMs and end users in the food, dairy and pharmaceutical, oil and gas, level, hydraulics and pneumatics, and general application industries use Tel-Tru transmitters.

Sanitary Pressure Gauges

Sanitary Pressure Gauges are engineered to meet the stringent performance and material demands within dairy, food, chemical, biotechnology and pharmaceutical environments.

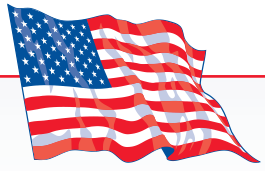
Remote Reading Thermometers



Remote thermometer models allow the case/head to be mounted away from a volatile application (vibration, high heat, etc.). Gas thermometers can be used in applications with a temperature up to 1200°F (650°C) versus other mechanical instrumentation limits of 800°F (425°C).

Surface Thermometers

Surface Thermometers are designed to measure surface temperatures on a wide variety of surfaces and are available in several configurations and connection options that include magnets, tab, spring coils, and clamps. Surface thermometers are compact in design, featuring 2" dials that are only 1" in height.



www.teltru.com

TEL-TRU MANUFACTURING COMPANY
408 St. Paul Street, Rochester, NY 14605 • 585.232.1440 • 800.232.5335 • info@teltru.com

ISO 9001:2015 CERTIFIED

TEL-TRU Manufacturing Co.

PRESSURE TRANSMITTERS

www.teltru.com

Temperature + Pressure | Since 1916

Precision Grade Threaded 100 Series

P121 - Precision Grade Threaded

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V (4-wire)
1-10 Vdc output

ACCURACY
0.25%
0.10%

PRESSURE RANGES
-30" Hg -0 psi thru 0-20,000 psi

P141/143 *(explosion proof)* - Precision Grade Rugged

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V (4-wire)
0-10 Vdc (req. 16-38 Vdc excit.)

ACCURACY
0.25%
0.10%

PRESSURE RANGES
-30" Hg -0 psi thru 0-25,000 psi

CERTIFICATIONS
cCSAus Explosion-Proof Certified for Class I Div 1 and Class I Div 2 Groups A, B, C, D

APPLICATIONS

- Hydraulics and Pneumatics
- Injection Molding Machines
- Laboratory and Test Equipment
- Marine and Offshore
- Petrochemical
- Pump and Compressors
- Brake Test Equipment
- Off Highway Equipment

P151 - Precision Grade Mid-High Pressure

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V (4-wire)
1-10 Vdc output

ACCURACY
0.50%
0.25%
0.10%

PRESSURE RANGES
0-15,000 psi thru 0-60,000 psi

P161 - Precision Grade Ultra High Pressure

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V (4-wire)
1-10 Vdc output

ACCURACY
0.50%
0.25%
0.10%

PRESSURE RANGES
0-25,000 psi thru 0-100,000 psi

APPLICATIONS

- High Pressure Cutting Systems
- Industrial Process Control
- Laboratory and Test Equipment
- Stamping Presses

Precision Grade Flush 200 Series

P221 - Precision Grade Flush Diaphragm

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V (4-wire)
0-10 Vdc output

ACCURACY
0.50%
0.25%

PRESSURE RANGES
0-100 psi thru 0-7,500 psi

APPLICATIONS

- Adhesives and Plastics Coating Machinery
- Paint Systems
- Sealant Systems
- Slurries
- Non-Filled Flush Diaphragm Process Connection

Precision Grade Sanitary 300 Series

P321 - Precision Grade Sanitary

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
0-10 Vdc output

ACCURACY
0.25%
0.10%

PRESSURE RANGES
-30" Hg -0 psi thru 0-1,000 psi

SANITARY STANDARD
Meets **3-A** Sanitary
Standard 74-07 requirements

P331 - Precision Grade Sanitary Tank Level

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V
Hart Protocol

ACCURACY
0.25%
0.10%

PRESSURE RANGES
0-3 psi thru 0-100 psi

SANITARY STANDARD
Meets **3-A** Sanitary
Standard 74-07 requirements

P341 - Precision Grade Homogenizer

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
1-2 mV/V

ACCURACY
0.50%
0.25%

PRESSURE RANGES
0-100 psi thru 0-20,000 psi

SANITARY STANDARD
Meets **3-A** Sanitary
Standard 74-07 requirements

APPLICATIONS

- Biotech
- Cosmetics
- Dairy
- Food and Beverage Processing
- Pharmaceutical

Precision Grade Submersible 400 Series

P421 - Precision Grade Submersible

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
.5 - 4.5 Vdc output

ACCURACY
0.50%
0.25%

PRESSURE RANGES
0-5 psi thru 0-500 ft. WC

APPLICATIONS

- Heavy Slurries
- Hydro Electric
- Level and Depth Measurement
- Waste Water Treatment

P431 - Precision Grade Submersible

OUTPUTS
4-20 mA (2-wire)
0-5 Vdc (3-wire)
.5 - 4.5 Vdc output

ACCURACY
0.25%
0.10%

PRESSURE RANGES
0-3 psi thru 0-15,000 ft. WC

APPLICATIONS

- Irrigation
- Level and Depth Measurement
- Underground Storage
- Water Resource
- Well Water
- Coal Bed Methane

Precision Grade Differential 500 Series

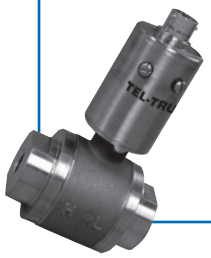
P521 - Precision Grade Differential

OUTPUTS	ACCURACY	PRESSURE RANGES
4-20 mA (2-wire)	0.50%	0-30 psid thru 0-10,000 psid
0-5 Vdc (3-wire)	0.25%	
1-2 mV/V (4-wire)	0.10%	
0-10 Vdc output		

P523 *(explosion proof)* - Precision Grade Differential

OUTPUTS	ACCURACY	CERTIFICATIONS
4-20 mA (2-wire)	0.50%	**cCSAus** Explosion-Proof Certified to Class 1 Div 1 and Class 1 Div 2 Groups A, B, C, D
0-5 Vdc (3-wire)	0.25%	
1-2 mV/V (4-wire)	0.10%	
0-10 Vdc output		

PRESSURE RANGES
0-5 in. WC thru 0-10,000 psi



P531 - Precision Grade Differential

OUTPUTS	ACCURACY	PRESSURE RANGES
4-20 mA (2-wire)	0.50%	0-5 in. WC thru 0-100 psid
0-5 Vdc (3-wire)	0.25%	
1-2 mV/V (4-wire)	0.10%	
0-10 Vdc output		

APPLICATIONS

- Hydraulics and Pneumatics
- Laboratory and Test
- Marine and Offshore
- Petrochemical
- Pumps and Compressors

PTD-2 Display

PTD-2 - Local Readout Display

OUTPUT
4-20 mA

ACCURACY
0.050%

PROTECTION CLASS
NEMA 4X

For detailed specifications, ranges, and order information, go to:
www.teltru.com/s-160-pressure-transmitters.aspx

Application and environmental conditions affect transmitter selection:

Type of service:
- Oil/gas
- Process
- Power plant general machinery
- OEM
- Waste water, etc.

Fluid conditions
- Static
- Varying pressure
- Pulsation
- Min/max temperatures
- Type of fluid
  - Sour gas
  - Water
  - Steam
  - Sludge, etc.

Various options are available—for proper selection consider:

Output
- Requirements of receiving equipment
- Supply voltage available
- Distance signal will travel

Accuracy
- Application requirement
- Cost

Pressure range
- Pressure limits of application
- Scaling of output signal—best when 50% to 80% of operating range is within mid-scale

Process connection
- Application requirements
- Pressure in system
- Media type being measured

Electrical connection
- Plant standards
- Application requirements

The CE mark on Tel-Tru Pressure Transmitters indicates they are in compliance with European Standards, incorporating components designed to protect the device from and neutralize the effects of Radio Frequency Interference (RFI), Electromagnetic Interference (EMI), and Electrostatic Discharge (ESD). This "electrical noise" comes from walkie-talkies (RFI), AC motors used in the vicinity of the transmitter installation (EMI), or from sources within the transmitter itself (ESD).

Tel-Tru Manufacturing Company
408 St. Paul Street, Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857
E-mail: info@teltru.com • Web: www.teltru.com

PT317
© 2017

TEL-TRU MANUFACTURING COMPANY

BIMETAL THERMOMETERS

Temperature + Pressure | *Since 1916*

www.teltru.com

Tel-Tru Manufacturing Company

Temperature + Pressure | *Since 1916*

We manufacture thermometers — but we sell service, reliability, product quality and performance, and our experience working with customers to solve temperature measurement and monitoring application problems.

Since my grandfather Harry Germanow started making household products in 1916 to today's temperature and pressure instruments, serving industrial, commercial, and OEM markets, our tradition has been to meet or exceed customer expectations.

Our goal is total customer satisfaction through *World-Class* manufacturing, service and support.

Tel-Tru's *World-Class* philosophy encompasses a customer-centric staff and culture supported by state-of-the-art equipment and manufacturing processes.

In our Rochester, NY factory, we continually make investments to expand and improve our capabilities and our capacity to produce bimetal thermometers that are the world-standard for quality workmanship and accuracy.

This product brochure provides you with a view of Tel-Tru quality as well as all the information you need to select the bimetal thermometer most appropriate for your application.

We look forward to providing you with a *World-Class* experience — the tradition continues!

Andy Germanow
CEO

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

Table of Contents

QUALITY AND PERFORMANCE FEATURES

Bimetal Thermometers Cross Section of Quality . . . . . page 2

SELECTING YOUR THERMOMETER

Considerations When Selecting Bimetal Thermometers . . . . . page 4
Safety and Application Considerations . . . . . page 4
Recommendations for Checking the Calibration of Bimetal Thermometer . . . . . page 5
Warranty . . . . . page 5
How to Order . . . . . page 6
Standard Features and Available Options . . . . . page 7

PRODUCTS

3", 4" and 5" Adjustable Angle Industrial Thermometers . . . . . page 8
3", 4" and 5" Back Connected Industrial Thermometers . . . . . page 10
3", 4" and 5" Bottom Connected Industrial Thermometers . . . . . page 12
1 3/4" and 2" Back Connected Industrial Thermometers . . . . . page 14
1 3/4", 2" and 3" Laboratory Testing and General Purpose Thermometers . . . . . page 16
1" and 1 3/8" Testing and Spot Checking Thermometers . . . . . page 18

OPTIONS AND ACCESSORIES

Connections, Fittings, Lenses, Dials, Tagging and Mounting Flanges . . . . . page 20
Thermowell Adapter kit . . . . . page 20

THERMOWELLS

Threaded, Flanged, Welded, Sanitary and Van Stone . . . . . page 21

SPECIAL CONFIGURATION AND APPLICATION THERMOMETERS

OEM Thermometers . . . . . page 22
Heavy Duty Marine Thermometers . . . . . page 22
Silicone Filled Thermometers . . . . . page 23
Thermometers with Heavy Duty Pointed Stem and Detachable Handle . . . . . page 23
Sanitary Bimetal Thermometers . . . . . page 23
Glow Dial and Reflective Thermometers . . . . . page 24
Minimum and Maximum Thermometers . . . . . page 24
Food Service Thermometers . . . . . page 25
Check-Set® Thermometer Calibrators . . . . . page 25

TEL-TRU BIMETAL THERMOMETERS ARE MANUFACTURED IN THE USA.

Tel-Tru Manufacturing Company

Temperature + Pressure | Since 1916

We manufacture thermometers - but we sell service, reliability, product quality and performance.

QUALITY AND PERFORMANCE FEATURES:

★ CASE AND BEZEL

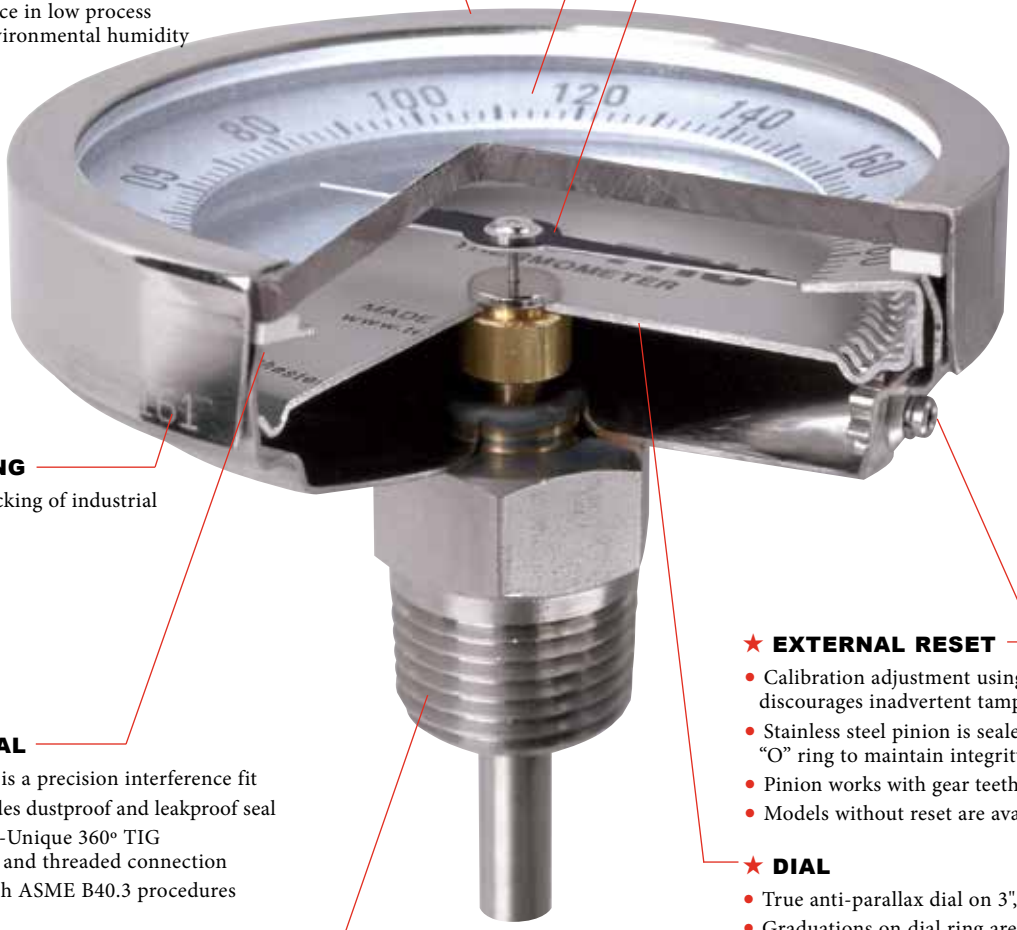
- 304 stainless steel standard
- 316 stainless steel optional
- All external parts corrosion resistant to most chemicals
- Parts designed for maximum strength to meet requirements of heavy duty industrial applications
- Manufactured with precision tooling on modern OSHA approved stamping equipment
- Statistical Process Control QA methods used to assure component quality and process consistency
- Polished finish identifies Tel-Tru quality
- Cases may be silicone filled for additional dampening of extreme vibration, or to assure consistent performance in low process temperature/high environmental humidity applications

★ LENS

- Extra heavy duty instrument glass standard
- Shatterproof glass, tempered glass, and plastics optional

★ POINTER

- Black painted aluminum
- Balanced and precisely assembled to bimetal coil stem
- Direct transfer of coil movement to temperature displayed on dial



★ DATE STAMPING

- Available for QA tracking of industrial thermometers

★ HERMETIC SEAL

- Case/Bezel assembly is a precision interference fit
- Silicone gasket provides dustproof and leakproof seal
- Welded construction-Unique 360° TIG weld joins case, stem and threaded connection
- Testing conforms with ASME B40.3 procedures

★ THREADED CONNECTION

- 304 stainless steel standard
- 316 stainless steel optional
- Precision manufactured on Tel-Tru CNC machines
- Statistical Process Control QA methods used to assure component quality and process consistency

★ EXTERNAL RESET

- Calibration adjustment using an Allen wrench discourages inadvertent tampering
- Stainless steel pinion is sealed with a silicone "O" ring to maintain integrity of hermetic seal
- Pinion works with gear teeth cut and formed in dial
- Models without reset are available

★ DIAL

- True anti-parallax dial on 3", 4"' 5" models
- Graduations on dial ring are on the same plane as the pointer tip minimizing reading error
- Concave design of dial ring enhances readability
- White appearing .032" anodized aluminum
- Graduations for each temperature range are calculated to match deflection data of bimetallic material
- Large easy to read black numerals and graduations are printed on precision pad printing equipment in our factory

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

★ BIMETAL COIL

- Super sensitive bimetallic helix coil
- Fabricated to tight tolerances
- Heat treated for stress relief
- Silicone coated to minimize pointer vibration and maximize heat transfer and response time
- Angular deflection of each coil is tested for perfect match with dial graduation layouts in precision calibration baths designed and built by Tel-Tru with accuracy to ±1/10°F

★ ACCURACY

- Per ASME B40.3 Grade A ±1% full span is guaranteed
- Calibration is to standards traceable to National Institute of Standards and Testing (NIST)
- Tel-Tru methods:
  - Most careful and precise in the industry
  - Produces typical accuracy better than ASME B40.3 Grade AA (1%-½%-1%) full span

★ BIMETAL BUSHING

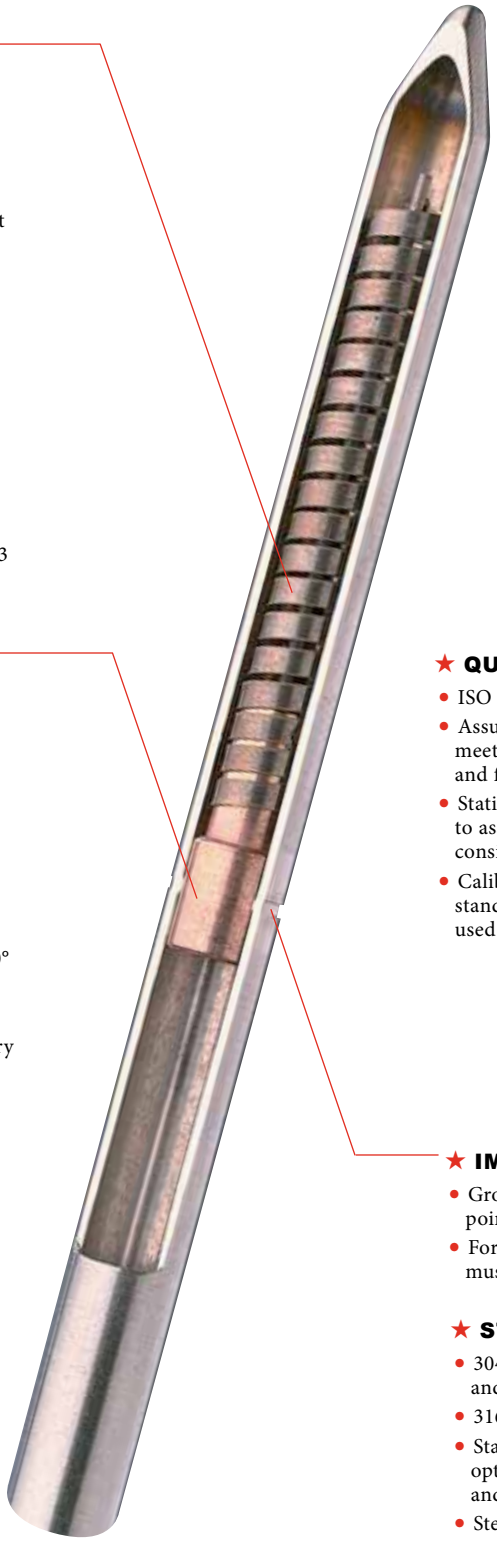
- Pressed into groove on stem
- Centers coil in stem
- 302 stainless steel stem wire goes through center of bushing connecting bimetal element to pointer, minimizes coil touching tube wall
- Centering bearings are used at regular intervals on long stem thermometers

★ TEMPERATURE RANGES

- 20 Standard Fahrenheit ranges from -100° to 1000°
- 20 Standard Celsius ranges from -75° to 550°
- 13 Standard Dual scale ranges
- Availability of over 120 ranges developed, may vary by dial size

★ OVER TEMPERATURE LIMITS

• Up to 250°F	100%
• 250° F to 550°F	50%
• 550° F to 1000°F	800°F for continuous use, intermittent use over 800°F



MADE IN USA

★ QUALITY SYSTEM

- ISO 9001:2015 certified
- Assures that all materials, methods and processes meet Tel-Tru's highest standards for form, fit, and function
- Statistical Process Control QA methods used to assure component quality and process consistency
- Calibration lab for NIST traceable verification of all standard thermometers and measuring instruments used in manufacturing process

★ IMMERSION:

- Groove around stem shows minimum immersion point on each thermometer
- For most accurate reading sensitive portion of stem must be completely immersed

★ STEM

- 304 Stainless steel tubing is welded/drawn and fabricated to exacting tolerances
- 316 stainless steel optional
- Standard stem diameter is .250" (6.35mm) – options include .375" (9.52mm), .236" (6mm) and .315" (8mm)
- Stem lengths available from 2½" to 120"
- Tip is welded and finished for hermetic seal and unique look

Selecting Your Thermometer

➤ CONSIDERATIONS WHEN SELECTING BIMETAL THERMOMETERS:

- Application? Continuous process flow, static tank, or laboratory testing etc.
- Environmental conditions? Ambient temperature, humidity, or corrosive atmosphere (salt spray etc.)
- Process conditions? Pressure, temperature, media viscosity, rate of flow, and possible vibration
- Wetted material of thermometer compatible with measured medium?
- Window material?

MODEL TYPE

- Dial size?
- Location of fitting connection for maximum readability when thermometer is installed in system– Back, adjustable angle, bottom, top, right side or left side connection location?
- Fitting thread size and type?

STEM

- Pipe size or depth of tank?
- Immersion length required?
- Stem length?
- Stem diameter?

TEMPERATURE RANGE

- Operating temperature of process? High and low
- Overall temperature range required? High and low
- Over-Range possibilities? Minimum and maximum
- Accuracy required?
- External reset required?
- Scale - °F, °C or dual?
- Bimetal thermometers should not be used continuously over 800°F (450°C)

OPTIONS AND ACCESSORIES

- Thermowell?
- Silicone filling?
- Minimum and/or maximum indicating pointers?
- Custom or special dial marking or colors?
- Sliding compression fittings– male or female?
- Thread size adapters?
- Project tagging?

➤ SAFETY AND APPLICATION CONSIDERATIONS:

- Use of a thermowell is recommended for pressure, corrosive fluid or high velocity applications.
- Use of a thermowell allows removal of thermometer for calibration check or interchange of instruments without shutting down the process.
- Install thermometers in locations that minimize injury or damage in the event of an accidental breach of stem/thermowell combination.
- Cases may be silicone filled for additional dampening of extreme vibration, or to assure consistent performance in low process temperature/high environmental humidity applications.
- Silicone filled thermometers are limited for use with process temperatures ranging from a minimum of -50°F (-45°C) to a maximum of 500°F (260°C).
- Use of silicone fill should be avoided where strong oxidizing agents such as oxygen, chlorine, nitric acid, and hydrogen peroxide are present.
- Bimetal thermometers should not be exposed continuously to process temperatures over 800° F (425° C) to avoid damaging the bimetal element.
- For 2½" stem industrial thermometers:
  - The connection nut should be immersed or in contact with the process media for most accurate reading.
  - When used with limited space thermowells some reading error may be noticed depending on process and ambient temperatures.
- Operating conditions – It is recommended the temperature of the thermometer head not exceed:
  - 200°F (93°C) for glass lenses
  - 150°F (65°C) for plastic lenses
  - 150°F (65°C) for silicone filled thermometers
- Optional lens materials:

  Acrylic plastic
  - Fair chemical resistance but low temperature limit

  Polycarbonate plastic
  - Higher temperature limit than acrylic but poor chemical resistance

  Shatterproof laminated safety glass
  - High corrosion resistance
  - Plastic laminate between two pieces of glass will hold fragments in place if broken but laminate will start to deteriorate above 200°F

  Tempered glass
  - Improved to withstand a broad range of temperature changes
  - More impact resistant than regular glass

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

➤ RECOMMENDATIONS FOR CHECKING THE CALIBRATION OF BIMETAL THERMOMETERS:

Use of a **MASTER THERMOMETER**, at least as accurate as a bimetal thermometer, is recommended for making comparisons. For best results, use **a precision ASTM** type mercury-in-glass thermometer certified directly traceable to NIST.

Immersion of the bimetal thermometer stem into the medium must be at least up to the groove on the stem to **assure that the entire bimetal coil is immersed.**

- In some short stem Tel-Tru industrial thermometers the groove may be hidden by the threaded connection; the entire stem and thread should be immersed in this case.

CALIBRATION TEST EQUIPMENT CONSIDERATIONS:

Check the stability and accuracy specifications of this instrumentation, and cross-check the read-outs with NIST traceable mercury in glass thermometers. Make certain the test instrument is stabilized at the reading point as initial insertion of thermometer stem into bath/dry block can sometimes have a short-term affect on test device stability.

- Take reading of Bimetal Thermometer when the pointer has stabilized and stopped moving. Typical immersion time may vary from approximately 1 to 3 minutes depending on type of thermometer, temperature point and calibration test equipment used.

Use of a laboratory grade **CONSTANT TEMPERATURE BATH**, with **agitation** to provide uniform temperature throughout, is recommended.

- Controls and read-out (if provided) should be properly calibrated and at least as accurate as the bimetal thermometer being tested.
- Confirm upper and lower limits of bath operating range as accuracy and stability may not be as consistent at those points.

If using a **DRY BLOCK** calibration device consider:

- The hole into which thermometer is inserted should allow for minimal air space around stem.
- The temperature profile of the "hole" may affect the reading of the tested bimetal thermometer— if the heat source is only at the bottom of hole or is not uniform over the length of the bimetal coil. This is compounded with short stem thermometers.

Tel-Tru Check-Set® Temperature Calibrators are recommended for verification of thermometer accuracy in food safety and food service **HACCP** (Hazardous Analysis Critical Control Points) programs.

★ Please call, fax or e-mail Tel-Tru if you have any questions, require review of process or need assistance. ★

➤ EIGHT YEAR WARRANTY

There is no better guarantee of quality bimetallic dial thermometers than the name Tel-Tru Manufacturing Company. And now, no guarantee lasts longer. Tel-Tru models AA375R, AA475R, AA575R, BC350R, BC450R, BC550R, GT300R, GT400R, and GT500R carry an EIGHT YEAR guarantee. It's simple! If the thermometer covered fails and you have not misused your Tel-Tru Thermometer, simply call us at 1-800-232-5335. We warrant certain designated instruments (AA375R, AA475R, AA575R, BC350R, BC450R, BC550R, GT300R, GT400R, and GT500R) manufactured and sold by us to be free from defects in material and workmanship under normal use and service. This warranty shall be null and void if the thermometer is exposed or subjected to: (1) corrosive chemicals, either environmentally or through manufacturing processes; (2) temperatures in excess of the rated over-temperature limit; or (3) any application which subjects the thermometer to excessive vibration or causes violation of the stem or case enclosure. Our obligation under this warranty shall be limited to the repair or exchange of any thermometer which shall be returned to our factory, transportation charges prepaid, within eight (8) years of the date of purchase, and which our examination shall disclose to be defective due to workmanship or material. This warranty is expressly in lieu of all other warranties expressed or implied (including any warranty of merchantability and fitness for a particular purpose), and of all other obligations or liabilities on our part for damages, including but not limited to consequential damages, arising out of the use or misuse of this thermometer, and we neither assume, or authorize any other person to assume for use, any other liability in connection with the sale of this thermometer or any part thereof. Warranty on all other models is one year under the same conditions as noted above.

How to Order

HOW TO ORDER:

EXAMPLE

MODEL CODE	STEM LENGTH	RANGE
3410	04	59

1) Model Code
2) Connection Size and Thread Type
3) Stem Length
4) Temperature Range
5) *State Options and Accessories When Required – See Standard Features and Options Table*

MODEL CODES, CONNECTIONS SIZE AND THREAD TYPE

.250" Diameter Stems– Industrial					
Dial Size	Model	NPT	Lens	Con. Loc.	CODE
2" (51mm)	LN250	1/4"	Glass	Back	3110
	LN250R	1/4"	Glass	Back	3210
3" (80mm)	GT300	1/2"	Glass	Back	3310
	GT300R	1/2"	Glass	Back	3410
	MX325R	1/2"	Glass	Back	3610
	MM325R	1/2"	Glass	Back	5010
	BC350R	1/2"	Glass	Bottom	3910
	AA375R	1/2"	Glass	Adjustable	4110
4" (100mm)	GT400	1/2"	Glass	Back	4510
	GT400R	1/2"	Glass	Back	4810
	BC450R	1/2"	Glass	Bottom	4610
	AA475R	1/2"	Glass	Adjustable	4710
5" (128mm)	GT500	1/2"	Glass	Back	3710
	GT500R	1/2"	Glass	Back	3810
	MX525R	1/2"	Glass	Back	5310
	MM525R	1/2"	Glass	Back	5410
	BC550R	1/2"	Glass	Bottom	4010
	AA575R	1/2"	Glass	Adjustable	4210

.150" Diameter Stems– Industrial					
Dial Size	Model	NPT	Lens	Con. Loc.	CODE
1 3/4" (44mm)	GT200	1/8"	Glass	Back	1910
	GT200	1/4"	Glass	Back	2010
2" (51mm)	GT225	1/8"	Glass	Back	4910
	GT225	1/4"	Glass	Back	491A

.150" Diameter Stems– Pocket/Laboratory					
Dial Size	Model	NPT	Lens	Con. Loc.	CODE
1" (25mm)	PT50R	N/A	Plycrb.	Back	1210
	PT50	N/A	Plycrb.	Back	1110
	AD10R	N/A	Plycrb.	Back	1219
1 3/8" (36mm)	AD44R	N/A	Plycrb.	Back	4419
1 3/4" (44mm)	MT39	N/A	Glass	Back	1310
	MT39R	N/A	Glass	Back	1410
	GT100R	N/A	Glass	Back	1610
2" (51mm)	LT225R	N/A	Glass	Back	2310
	LT225	N/A	Glass	Back	2210
3" (80mm)	LT325R	N/A	Glass	Back	2410

STEM LENGTHS

Stem Lengths	Code
-2 1/2" (63mm)	02
4" (100mm)	04
* 5" (128mm)	05
6" (152mm)	06
* 8" (203mm)	08
9" (229mm)	09
12" (305mm)	12
15" (381mm)	15
18" (457mm)	18
24" (610mm)	24

* Laboratory and test thermometers .150" only

STANDARD TEMPERATURE RANGES

Fahrenheit	Code
-100/100	51
-50/120	52
-40/160	53
0/140	54
0/180	55
0/200	50
0/220	56
0/250	67
0/300	57
0/500	58
20/240	59
25/125	60
50/250	61
50/300	62
50/400	63
50/500	64
50/550	68
100/800	44
150/750	65
200/1000	66

Celsius	Code
-75/175	87
-70/70	EA
-50/100	71
-50/25	72
-50/50	73
-40/70	84
-20/120	86
-10/110	74
0/50	75
0/60	95
0/80	EI
0/100	76
0/150	77
0/200	78
0/250	79
0/300	80
0/400	81
0/450	90
100/400	82
100/550	83

DUAL RANGES

Fahrenheit	Celsius	Code
-100/100	-75/40	01
-40/160	-40/70	02
0/140	-18/60	13
0/180	-18/82	03
0/220	-10/100	04
0/250	-20/120	14
20/240	-10/110	05
25/125	0/50	06
50/300	10/150	07
50/400	0/200	08
50/500	0/250	09
150/750	50/400	10
200/1000	100/550	11

Availability of temperature ranges varies by model. Dial size must be 1-3/8" or larger.

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD FEATURES AND AVAILABLE OPTIONS

		Laboratory and Testing Thermometers									Industrial		Industrial Thermometers						
	Head Dia.	**1"**			**1 3/8"**	**1 3/4"**		**2"**			**3"**	**1 3/4"**	**2"**	**2"**	**3", 4" and 5"**					
	Model	PT50 (1110)	PT50R (1210)	AD10R (1219)	AD44R (4419)	GT100 (1510)	GT100R (1610)	LT225 (2210)	LT225R (2310)	LT325R (2410)	GT200	GT225 (4910)	LN250 (3110) LN250R (3210)	AAR (3" 4110) (4" 4710) (5" 4210)	BCR (3" 3910) (4" 4610) (5" 4210)	GT (3" 3310) (4" 4510) (5" 3710)	GTR (3" 3410) (4" 4810) (5" 3810)	MMR (3" 5010) (5" 5410)	MXR (3" 3610) (5" 5310)
Lens	Glass	†	†			✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
	Glass, Shatterproof													O	O	O	O		
	Glass, Tempered					O	O	O	O	O	O	O	O	O	O	O	O		
	Plastic, Acrylic							O	O	O		O	O	O	O	O	O		O
	Plastic, Polycarbonate	†	†	✔	✔	O	O	O	O	O	O	O	O	O	O	O	O		
Stem Diameters	.140"	O	O	O	O	O	O	O	O		O	O							
	.150"	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔							
	.187"								O	O									
	.236" (6mm)													O	O	O	O	O	O
	.250"												✔	✔	✔	✔	✔	✔	✔
	.315" (8mm)													O	O	O	O	O	O
	.375"												O	O	O	O	O	O	O
Connections	Bushing, Plain	✔				✔		✔					O	O	O	O	O	O	O
	Bushing, 1/4" - 20	O				O		O											
	Bushing, 1/4" - 28	O				O		O											
	Bushing, 3/8" - 24	O				O													
	Nut, Recalibrating		✔	✔	✔		✔		✔	✔									
	Nut, 1/16" NPT	O									O								
	Nut, 1/8" NPT	O									✔(1910)	O	O						
	Nut, 1/4" NPT	O									✔(2010)	✔	✔	O	O	O	O	O	O
	Nut, 1/4" BSPT	O									O		O(3210)	O	O	O	O	O	O
	Nut, 3/8" NPT	O									✔(2110)	O	O	O	O	O	O	O	O
	Nut, 3/8" BSPT													O	O	O	O	O	O
	Nut, 1/2" NPT	O									O	O	O	✔	✔	✔	✔	✔	✔
	Nut, 1/2" BSPT												O(3110)	O	O	O	O	O	O
	Union, 1/2" NPT													O	O	O	O	O	O
	Other Connections	Other connection fittings available upon request.																	
Options	Silicone Filled							O	O				O	O	O	O	O		
	316SS, Wetted Parts													O	O	O	O	O	O
	316SS, All													O	O	O	O		
	Tagging	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	Custom Dial Imprinting	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O
	Stem Lengths	Intermediate lengths available upon request. 18" Maximum											Intermediate lengths available upon request. 120" Maximum						

✔ Standard configuration.
† Polycarbonate lens standard up to 300°F (150°C), Glass lens standard over 300°F (150°C). Do Not subject Polycarbonate lens to temperatures over 270°F (130°C).
O Available options.

3", 4" and 5" Adjustable Angle Industrial Thermometers

• Maximum utility for installation • Head can be rotated 360° • Stem positioning over 180°

Heavy Duty design, with versatile case and stem that can be adjusted to almost any angle for easy viewing. Preferred by the process, offshore, power, pharmaceutical and chemical industries.

➤ MODEL CODES:

AA-375R	3" diameter head with calibration feature
AA-475R	4" diameter head with calibration feature
AA-575R	5" diameter head with calibration feature

➤ SPECIFICATIONS:

Stem Lengths:	2½", 4", 6", 9", 12", 15", 18" and 24" (available up to 120").
Stem Diameter:	.250" standard up to 42" stem. .375" standard over 42" stem.
Connection:	1/2" NPT.
External Reset:	Easy to calibrate by inserting 1/16" Allen wrench into reset opening.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Harness:	All stainless steel brackets with screws that loosen to allow 360° rotation of head and 180° adjustment of stem position.
Bellows:	Heavy-duty flexible stainless steel. Hermetically sealed at case and connection. Protects mechanism that transfers temperature change from bimetal coil to pointer.
Dial:	True Anti-Parallax dial, easy-to-read from any angle, minimizes reading errors. Anodized aluminum with large black numbers and graduations.
Lens:	Glass.
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A. Adjustment of the angle between case and stem may affect accuracy up to 0.5% of span (ASME B40.3).
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD RANGES:

Fahrenheit	°/Div.	Celsius	°/Div.	Dual Fahrenheit	Dual Celsius
-100/100°	2°	-75/175°	5°	-100/100	-75/40
-50/120°	2°	-70/70°	1°	-40/160	-40/70
-40/160°	2°	-50/100°	1°	-0/140	-18/60
0/140°	1°	-50/25°	1°	0/180	-18/82
0/180°	2°	-50/50°	1°	0/220	-10/100
0/200°	2°	-40/70°	1°	0/250	-20/120
0/220°	2°	-20/120°	1°	20/240	-10/110
0/250°	2°	-10/110°	1°	25/125	-5/50
0/300°	5°	0/50°	1/2°	50/300	10/150
0/500°	10°	0/60°	1°	50/400	0/200
20/240°	2°	0/80°	1/2°	50/500	10/260
25/125°	1°	0/100°	1°	150/750	50/400
50/250°	2°	0/150°	1°	* 200/1000	*100/550
50/300°	2°	0/200°	2°		
50/400°	5°	0/250°	2°		
50/500°	5°	0/300°	5°		
50/550°	5°	0/400°	5°		
100/800°	10°	0/450°	5°		
150/750°	10°	100/400°	5°		
* 200/1000°	10°	*100/550°	5°		

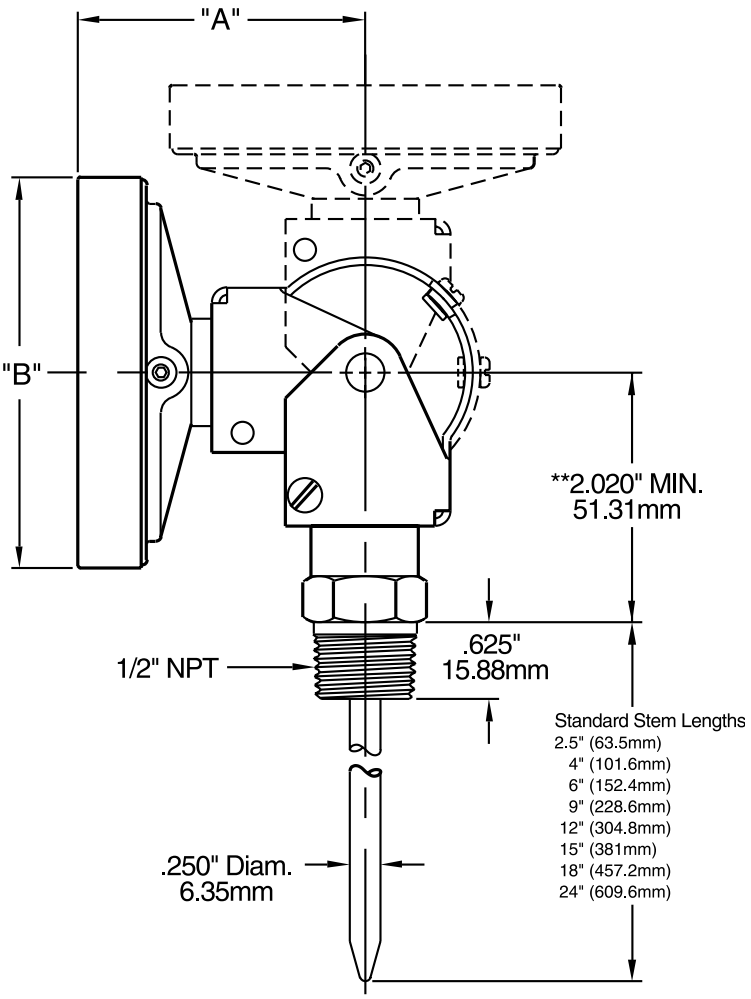
(Additional Ranges Available – Consult factory)
* Thermometers with temperature ranges 200/1000°F and 100/550°C are NOT RECOMMENDED FOR CONTINUOUS USE ABOVE 800°F/425°C (FOR INTERMITTENT USE ONLY).

OPTIONS:

- Union connection or other connection types and sizes.
- Silicone filled.
- Other lenses are acrylic, polycarbonate, shatterproof glass or tempered glass.
- Other stem diameters .236" (6mm), .315" (8mm), .375" (9.52mm).
- 316SS wetted parts.
- Other configuration combinations available upon request.

Estimated Shipping Weights		
MODEL	DRY	SILICONE FILLED
AA-375R	1lb.	1lb. 3oz.
AA-475R	1lb. 8oz.	1lb. 14oz.
AA-575R	1lb. 12oz.	2lb. 6oz.

AA-375R, AA-475R AND AA-575R



MODEL	"A"	"B"
AA-375R	2.430" (61.72mm)	3.187" (80.95mm)
AA-475R	2.430" (61.72mm)	4.115" (104.50mm)
AA-575R, UT-575	2.660" (67.56mm)	5.040" (128.02mm)

** Contact factory if specific dimension is required for OEM applications.

FOR HOW TO ORDER, SEE PAGE 6

IMPORTANT NOTES:

1) Thermowells are recommended for pressure, corrosive fluid or high velocity applications.
2) ASME B40.3— Bimetal thermometers manufactured by Tel-Tru and offered in this brochure are designed to meet or exceed this Standard issued by the American Society of Mechanical Engineers.

3", 4" and 5" Back Connected Industrial Thermometers

A rugged 90° back angle, rear threaded connection design. Commonly used in industrial, pulp and paper, food and beverage processing, HVAC, and OEM applications.

➤ MODEL CODES:

GT-300	3" diameter head
GT-300R	3" diameter head with calibration feature
MX-325R	3" diameter head with calibration feature and min ***or*** max temperature indicator
MM-325R	3" diameter head with calibration feature and min ***and*** max temperature indicator
GT-400	4" diameter head
GT-400R	4" diameter head with calibration feature
GT-500	5" diameter head
GT-500R	5" diameter head with calibration feature
MX-525R	5" diameter head with calibration feature and min ***or*** max temperature indicator
MM-525R	5" diameter head with calibration feature and min ***and*** max temperature indicator

➤ SPECIFICATIONS:

Stem Lengths:	2½", 4", 6", 9", 12", 15", 18" and 24" (available up to 120").
Stem Diameter:	.250" standard up to 42" stem. .375" standard over 42" stem.
Connection:	1/2" NPT.
External Reset:	Models with calibration feature are easy to calibrate by inserting 1/16" Allen wrench into reset opening.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Dial:	True Anti-Parallax dial, easy-to-read from any angle, minimizes reading errors. Anodized aluminum with large black numbers and graduations.
Lens:	Glass.
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A. When using maximum or minimum temperature indicator, accurate to within 1½% full span.
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD RANGES:

Fahrenheit	°/Div.	Celsius	°/Div.	Dual Fahrenheit	Dual Celsius
-100/100°	2°	-75/175°	5°	-100/100	-75/40
-50/120°	2°	-70/70°	1°	-40/160	-40/70
-40/160°	2°	-50/100°	1°	-0/140	-18/60
0/140°	1°	-50/25°	1°	0/180	-18/82
0/180°	2°	-50/50°	1°	0/220	-10/100
0/200°	2°	-40/70°	1°	0/250	-20/120
0/220°	2°	-20/120°	1°	20/240	-10/110
0/250°	2°	-10/110°	1°	25/125	-5/50
0/300°	5°	0/50°	1/2°	50/300	10/150
0/500°	10°	0/60°	1°	50/400	0/200
20/240°	2°	0/80°	1/2°	50/500	10/260
25/125°	1°	0/100°	1°	150/750	50/400
50/250°	2°	0/150°	1°	* 200/1000	*100/550
50/300°	2°	0/200°	2°		
50/400°	5°	0/250°	2°		
50/500°	5°	0/300°	5°		
50/550°	5°	0/400°	5°		
100/800°	10°	0/450°	5°		
150/750°	10°	100/400°	5°		
* 200/1000°	10°	*100/550°	5°		

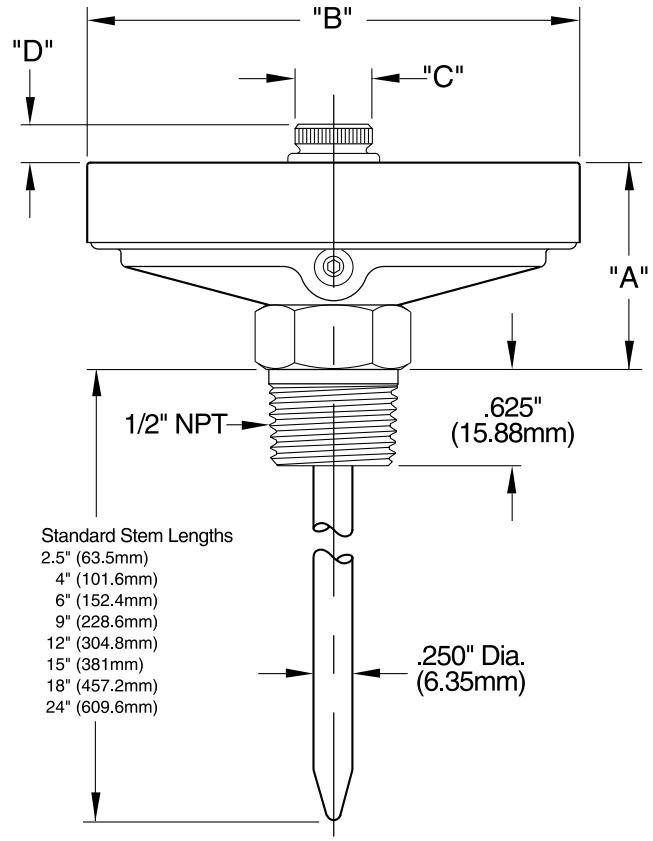
(Additional Ranges Available – Consult factory)
* Thermometers with temperature ranges 200/1000°F and 100/550°C are NOT RECOMMENDED FOR CONTINUOUS USE ABOVE 800°F/425°C (FOR INTERMITTENT USE ONLY).

OPTIONS:

- Union connection or other connection types and sizes.
- Silicone filled.
- Other lenses are acrylic, polycarbonate, shatterproof glass or tempered glass (except MX and MM models).
- Other stem diameters .236" (6mm), .315" (8mm), .375" (9.5mm).
- 316SS wetted parts.
- Other configuration combinations available upon request.
- Some ranges NSF® certified.

Estimated Shipping Weights		
MODEL	DRY	SILICONE FILLED
GT-300 and GT-300R	11 oz.	14 oz.
GT-400 and GT-400R	1 lb.	1 lb. 6 oz.
GT-500 and GT-500R	1 lb. 4 oz.	1 lb. 14 oz.
MX-325R and MM-325R	11 oz.	N/A
MX-525R and MM-525R	1 lb. 4 oz.	N/A

GT-300, GT-300R, GT-400, GT-400R, GT-500, GT-500R, MX-325R, MM-325R, MX-525R, MM-525R



MODEL	"A"	"B"	"C"	"D"
GT-300, GT-300R	1.375" (34.93mm)	3.187" (80.95mm)	N/A	N/A
GT-400, GT-400R	1.375" (34.93mm)	4.115" (104.50mm)	N/A	N/A
GT-500, GT-500R, UT500	1.718" (43.63mm)	5.040" (128.02mm)	N/A	N/A
MX-325R	1.375" (34.93mm)	3.187" (80.95mm)	.500" (12.70mm)	.275" (6.99mm)
MM-325R	1.375" (34.93mm)	3.187" (80.95mm)	.625" (15.88mm)	.438 (11.12mm)
MX-525R	1.718" (43.63mm)	5.040" (128.02mm)	.500" (12.70mm)	.275" (6.99mm)
MM-525R	1.718" (43.63mm)	5.040" (128.02mm)	.625" (15.88mm)	.438 (11.12mm)

FOR HOW TO ORDER, SEE PAGE 6

IMPORTANT NOTES:

1) Thermowells are recommended for pressure, corrosive fluid or high velocity applications.
2) ASME B40.3— Bimetal thermometers manufactured by Tel-Tru and offered in this brochure are designed to meet or exceed this Standard issued by the American Society of Mechanical Engineers.

3", 4" and 5" Bottom Connected Industrial Thermometers

A sturdy straight form design commonly used for industrial applications and OEM equipment.

MODEL CODES:

BC-350R	3" diameter head with calibration feature
BC-450R	4" diameter head with calibration feature
BC-550R	5" diameter head with calibration feature

SPECIFICATIONS:

Stem Lengths:	2½", 4", 6", 9", 12", 15", 18" and 24" (available up to 120").
Stem Diameter:	.250" standard up to 42" stem. .375" standard over 42" stem.
Connection:	1/2" NPT.
External Reset:	Easy to calibrate by inserting Allen wrench into reset opening.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Dial:	True Anti-Parallax dial, easy-to-read from any angle, minimizes reading errors. Anodized aluminum with large black numbers and graduations.
Lens:	Glass.
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A.
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.

MADE IN USA

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD RANGES:

Fahrenheit	°/Div.	Celsius	°/Div.	Dual Fahrenheit	Dual Celsius
-100/100	2°	-75/175	5°	-100/100	-75/40
-50/120	2°	-70/70	1°	-40/160	-40/70
-40/160	2°	-50/100	1°	0/140	-18/60
0/140	1°	-50/25	1°	0/180	-18/82
0/180	2°	-50/50	1°	0/220	-10/100
0/200	2°	-40/70	1°	0/250	-20/120
0/220	2°	-20/120	1°	20/240	-10/110
0/250	2°	-10/110	1°	25/125	-5/50
0/300	5°	0/50	1/2°	50/300	10/150
0/500	10°	0/60	1°	50/400	0/200
20/240	2°	0/80	1/2°	50/500	10/260
25/125	1°	0/100	1°	150/750	50/400
50/250	2°	0/150	1°	* 200/1000	*100/550
50/300	2°	0/200	2°		
50/400	5°	0/250	2°		
50/500	5°	0/300	5°		
50/550	5°	0/400	5°		
100/800	10°	0/450	5°		
150/750	10°	100/400	5°		
* 200/1000	10°	*100/550	5°		

(Additional Ranges Available – Consult factory)

* Thermometers with temperature ranges 200/1000°F and 100/550°C are NOT RECOMMENDED FOR CONTINUOUS USE ABOVE 800°F/425°C (FOR INTERMITTENT USE ONLY).

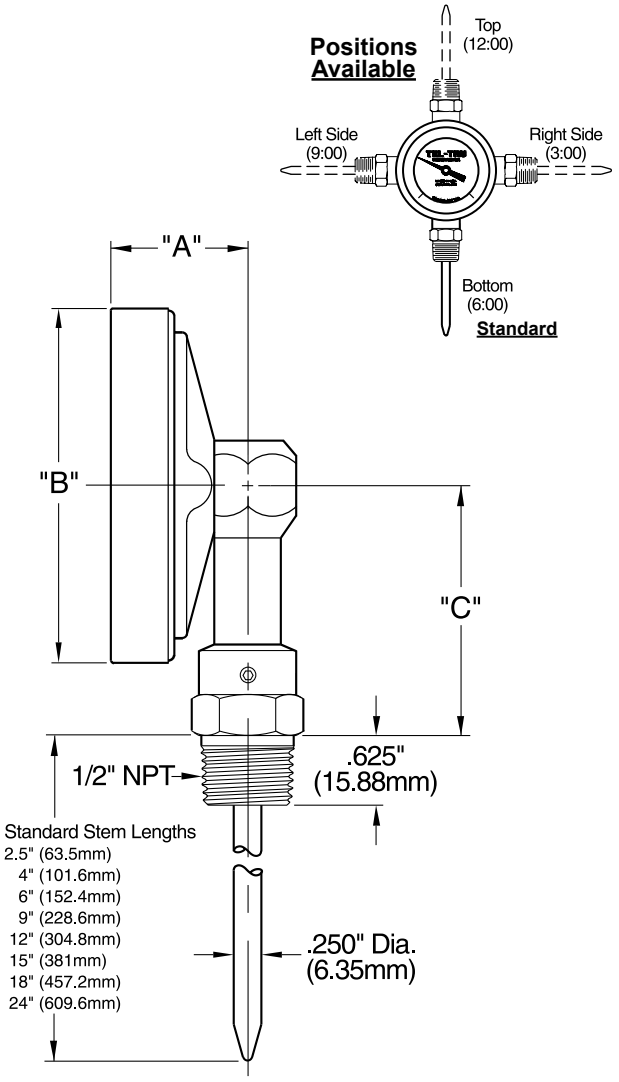
OPTIONS:

- Stem Position available in TOP (12:00), RIGHT (3:00), or LEFT (9:00) side connections (specify position of stem when ordering).
- Union connection or other connection types and sizes.
- Silicone filled.
- Other lenses are acrylic, polycarbonate, shatterproof glass or tempered glass.
- Other stem diameters .236" (6mm), .315" (8mm), .375" (9.5mm).
- 316SS wetted parts.
- Other configuration combinations available upon request.

Estimated Shipping Weights		
MODEL	DRY	SILICONE FILLED
BC-350R	14 oz.	1 lb. 1 oz.
BC-450R	1 lb. 3 oz.	1 lb. 9 oz.
BC-550R	1 lb. 10 oz.	2 lb. 4 oz.

FOR HOW TO ORDER, SEE PAGE 6

BC-350R, BC-450R AND BC-550R



MODEL	"A"	"B"	"C"
BC-350R	1.187" (30.15mm)	3.187" (80.95mm)	2.300" (58.42mm)
BC-450R	1.187" (30.15mm)	4.115" (104.50mm)	3.000" (76.20mm)
BC-550R	1.625" (41.28mm)	5.040" (128.02mm)	3.000" (76.20mm)

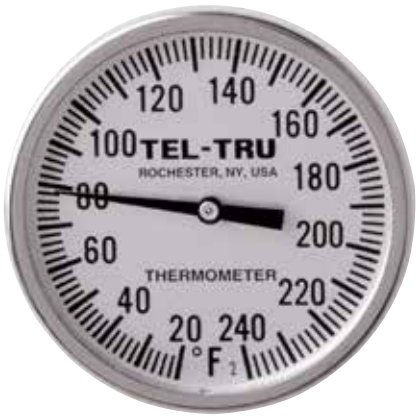
IMPORTANT NOTES:

1) Thermowells are recommended for pressure, corrosive fluid or high velocity applications.
2) ASME B40.3— Bimetal thermometers manufactured by Tel-Tru and offered in this brochure are designed to meet or exceed this Standard issued by the American Society of Mechanical Engineers.

1¾" and 2" Back Connected Industrial Thermometers

A smaller size, heavy duty, rear connected unit commonly used in OEM equipment and light industrial applications.

GT-200
(With 1¾" dial)



LN-250
(With 2" dial)

➤ MODEL CODES:

GT-200	1¾" diameter head
GT-225	2" diameter head
LN-250	2" diameter head
LN-250R	2" diameter head with calibration feature

➤ SPECIFICATIONS:

Stem Lengths:	GT Models 2½", 4", 6", 8", 12", and 18". LN Models 2½", 4", 6", 9", 12", 15", 18" and 24" (available up to 120").
Stem Diameter:	GT model .150" standard up to 18" stem. LN model .250" standard up to 42" stem. LN model .375" is standard over 42" stem.
Connection:	GT models 1/8", 1/4", or 3/8" NPT is standard. LN models 1/4" NPT is standard.
External Reset:	LN-250R is easy to calibrate by loosening the socket head screw (above hex connecting nut) with 5/64" Allen wrench.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Dial:	Anodized aluminum with large black numbers and graduations.
Lens:	Glass.
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A.
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.

MADE IN USA

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

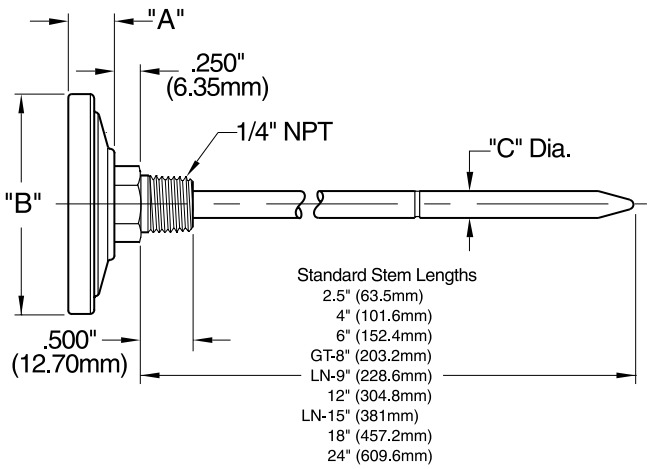
STANDARD RANGES:

Fahrenheit	°/Div.	Celsius	°/Div.	Dual Fahrenheit	Dual Celsius
-100/100	2°	-75/175	5°	-100/100	-75/40
-50/120	2°	-50/100	1°	-40/160	-40/70
-40/160	2°	-50/25	1°	0/140	-18/60
0/140	2°	-50/50	1°	0/180	-18/82
0/180	2°	-40/70	1°	0/220	-10/100
0/200	2°	-20/120	1°	0/250	-20/120
0/220	2°	-10/110	1°	20/240	-10/110
0/250	2°	0/50	1/2°	25/125	0/50
20/240	2°	0/100	1°	50/300	10/150
25/125	1°	0/150	1°	50/400	0/200
50/250	2°	0/200	2°	50/500	0/250
50/300	2°	0/250	2°	150/750	50/400
50/400	5°	0/300	5°	* 200/1000	*100/550
50/500	5°	0/400	5°		
50/550	5°	100/400	5°		
150/750	10°	*100/550	5°		
* 200/1000	10°				

(Additional Ranges Available – Consult factory)

* Thermometers with temperature ranges 200/1000°F and 100/550°C are NOT RECOMMENDED FOR CONTINUOUS USE ABOVE 800°F/425°C (FOR INTERMITTENT USE ONLY).

GT-200, GT-225, AND LN-250

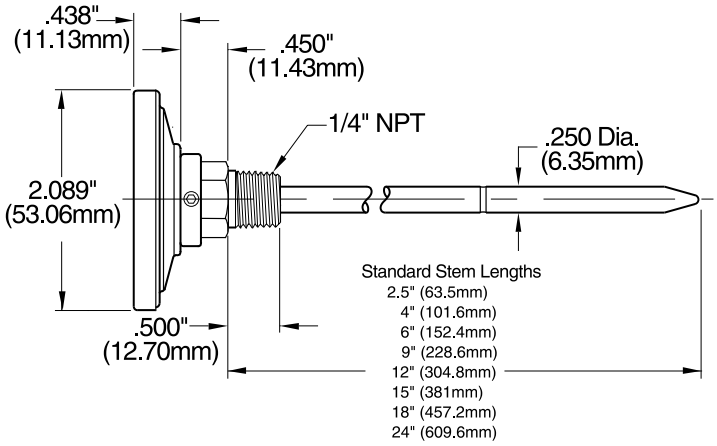


MODEL	"A"	"B"	"C"
GT-200	.350" (8.89mm)	1.750" (44.45mm)	.150" (3.81mm)
GT-225	.438" (11.13mm)	2.089" (53.06mm)	.150" (3.81mm)
LN-250	.438" (11.13mm)	2.089" (53.06mm)	.250" (6.35mm)

OPTIONS:

- Other threaded or plain connections.
- Silicone filled.
- Other lenses are acrylic, polycarbonate or tempered glass.
- Other stem diameters GT-200/GT-225 .140" (3.6mm) models. LN-250 .236" (6mm) and .375" (9.5mm).
- Other configuration combinations available upon request.

LN-250R



Estimated Shipping Weights		
MODEL	DRY	SILICONE FILLED
GT-200	3 oz.	N/A
GT-225	3 oz.	5 oz.
LN-250 and LN-250R	5 oz.	9 oz.

FOR HOW TO ORDER, SEE PAGE 6

IMPORTANT NOTES:

1) Thermowells are recommended for pressure, corrosive fluid or high velocity applications.
2) ASME B40.3— Bimetal thermometers manufactured by Tel-Tru and offered in this brochure are designed to meet or exceed this Standard issued by the American Society of Mechanical Engineers.

1¾", 2" and 3" Laboratory Testing and General Purpose Thermometers

These models are used for general-purpose testing applications such as laboratory, food, concrete, asphalt, soil and photography and OEM equipment.

GT-100R
(With 1¾" dial)

LT-325R
(With 3" dial)

LT-225R
(With 2" dial)

➤ MODEL CODES:

GT-100 and MT-39	1¾" diameter head
GT-100R and MT-39R	1¾" diameter head with calibration feature
LT-225	2" diameter head
LT-225R and BT-275R	2" diameter head with calibration feature
LT-325R	3" diameter head with calibration feature

➤ SPECIFICATIONS:

Stem Lengths:	5", 8", 12" and 18".
Stem Diameter:	.150" standard up to 18" stem.
Connection:	GT-100, MT-39 and LT-225 plain bushing is standard. GT-100R, MT-39R, LT-225R, BT-275R and LT-325R recalibrating nut is standard.
External Reset:	GT-100R, MT-39R, LT-225R, BT-275R and LT-325R friction nut design for easy calibration.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Dial:	Anodized aluminum with large black numbers and graduations.
Lens:	GT, MT, and LT models glass is standard.
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A.
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.
Adjustable Pan Clip:	Standard on 5" and 8" GT-100R, LT-225R and LT-325R (for tank and tray mounting).

MADE IN USA

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD RANGES 1¾", 2" AND 3" MODELS:

Fahrenheit	°/Div.	Celsius	°/Div.	Dual Fahrenheit	Dual Celsius
-100/100	2°	-75/175	5°	-100/100	-75/40
-50/120	2°	-50/100	1°	-40/160	-40/70
-40/160	2°	-50/25	1°	0/140	-18/60
0/140	2°	-50/50	1°	0/180	-18/82
0/180	2°	-40/70	1°	0/220	-10/100
0/200	2°	-20/120	1°	0/250	-20/120
0/220	2°	-10/110	1°	20/240	-10/110
0/250	2°	0/50	1/2°	25/125	0/50
20/240	2°	0/100	1°	50/300	10/150
25/125	1°	0/150	1°	50/400	0/200
50/250	2°	0/200	2°	50/500	0/250
50/300	2°	0/250	2°	150/750	50/400
50/400	5°	0/300	5°	* 200/1000	*100/550
50/500	5°	0/400	5°		
50/550	5°	100/400	5°		
150/750	10°	*100/550	5°		
* 200/1000	10°				

Notes for above table:
(Additional Ranges Available– Consult factory)
* Thermometers with temperature ranges 200/1000°F and 100/550°C are NOT RECOMMENDED FOR CONTINUOUS USE ABOVE 800°F/425°C (FOR INTERMITTENT USE ONLY).

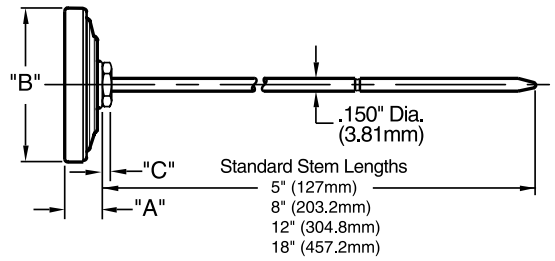
Est. Shipping Weights MODEL	DRY
MT-39 and MT-39R	4 oz.
GT-100 and GT-100R	3 oz.
LT-225 and LT-225R	4 oz.
LT-325R and BT-275R	4 oz.

OPTIONS:

- Threaded connections on non-recal models.
- Other lenses are acrylic, polycarbonate or tempered glass.
- Other stem diameters .140" (3.6mm) and .187" (4.7mm).
- Pocket sheath for 5" or 8" stem.
- Silicone fill on LT-225 and LT-225R.
- Other configuration combinations available upon request.

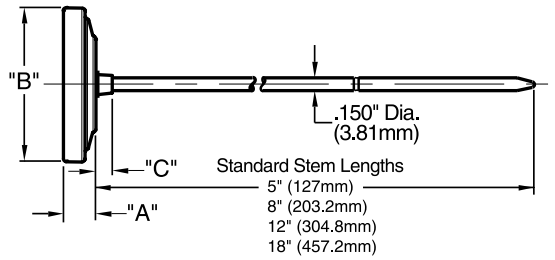
FOR HOW TO ORDER, SEE PAGE 6

GT-100R, MT-39R, BT-275R, LT-225R, AND LT-325R



MODEL	"A"	"B"	"C"
GT-100R, MT-39R	.412" (10.47mm)	1.750" (44.45mm)	.102" (2.59mm)
LT-225R, BT-275R	.438" (11.13mm)	2.089" (53.06mm)	.120" (3.05mm)
LT-325R	.465" (11.81mm)	3.200" (81.28mm)	.120" (3.05mm)

GT-100, MT-39, and LT-225



MODEL	"A"	"B"	"C"
GT-100, MT-39	.350" (8.89mm)	1.750" (44.45mm)	.187" (4.75mm)
LT-225	.438" (11.13mm)	2.089" (53.06mm)	.250" (6.35mm)

IMPORTANT NOTES:

1) IMMERSION– For most accurate reading with Tel-Tru thermometers immerse past groove on lower portion of stem.
2) MT and BT models are designed with Tel-Tru unique pressure relief ring feature designed to prevent pressure build up in thermometer head while cooking in hot oven.
3) Some models and ranges are NSF® certified (National Sanitation Foundation).

1" and 1⅜" Testing and Spot Checking Thermometers

A pocket sized thermometer used by inspectors, service and maintenance personnel, and technicians for general checking in food service, refrigeration, air conditioning, hot asphalt and food processing applications. Often modified for OEMs to use in limited space situations.

AD-44R
(with 1⅜" dial)

PT-50R
(with 1" dial)

PT-50R
(Shown with pocket sheath)

➤ MODEL CODES:

PT-50	1" diameter head
PT-50R	1" diameter head with calibration feature
AD-10R	1" diameter head with calibration feature
AD-44R	1⅜" diameter head with calibration feature

MADE IN USA

➤ SPECIFICATIONS:

Stem Length:	5" (127mm)
Stem Diameter:	.150"
Connection:	PT-50 model plain bushing is standard. PT-50R, AD-10R and AD-44R recal nut is standard.
External Reset:	PT-50R, AD-10R, AD-44R and MT-39R friction nut design for easy calibration.
Construction:	304 stainless steel external parts. Welded construction. Corrosion resistant to most chemicals.
Hermetic seal:	Per ASME B40.3 dustproof and leakproof.
Dial:	Anodized aluminum with large black numbers and graduations. Glow dial available on PT-50R and AD-44R.
Lens:	AD-10R and AD-44R models polycarbonate lens is standard. PT-50 and PT-50R models polycarbonate lens is standard up to 300°F (150°C) and glass lens over 300°F (150°C).
Bimetal Coil:	Helix coil is silicone coated on ranges below 500°F for vibration dampening and to maximize heat transfer and response time.
Accuracy:	±1% full span per ASME B40.3 Grade A.
Over Temperature Limits:	Up to 250°F 100%; 250°F to 550°F, 50%; 550°F to 1000°F, continuous use up to 800°F, intermittent use over 800°F.
Pocket sheath:	Standard on 5" PT-50R, AD-10R and AD-44R.

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

STANDARD RANGES:

Fahrenheit	°/Division	Celsius	°/Division
* -40/160	2°	-40/70	1°
25/125	1°	-10/110	1°
* 0/220	2°	0/50	1/2°
* 50/500	5°	0/250	5°
150/750	10°		

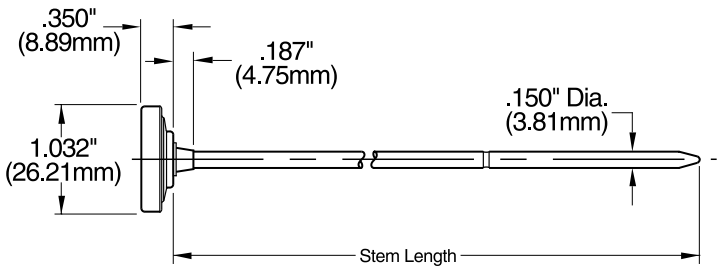
(Additional Ranges Available– Consult factory)
* NSF® approved for food service applications on models PT-50R, AD-10R and AD-44R

OPTIONS:

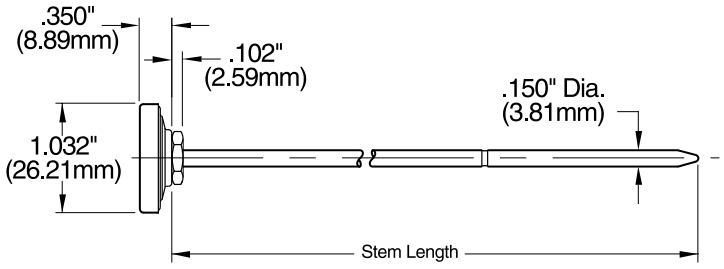
- .140" stem diameter.
- Threaded connections for OEM applications.
- Other configuration combinations available upon request.
- Glow dial available on PT50R and AD44R.

Estimated Shipping Weights	
MODEL	DRY
PT-50 and PT-50R. . . .	1 oz.
AD-10R	1 oz.
AD-44R	2 oz.

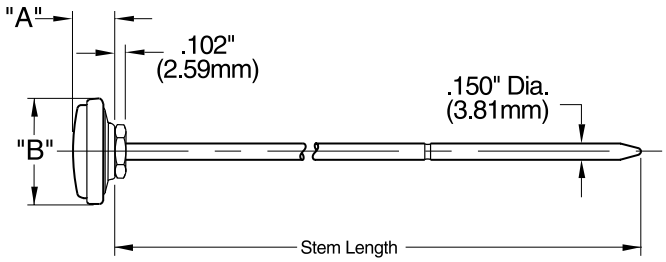
PT-50



PT-50R



AD-10R AND AD-44R



MODEL	"A"	"B"
AD-10R	.400" (10.16mm)	1.004" (25.50mm)
AD-44R	.456" (11.58mm)	1.358" (34.50mm)

FOR HOW TO ORDER, SEE PAGE 6

IMPORTANT NOTES:

1) IMMERSION – For most accurate reading with Tel-Tru thermometers immerse past groove on lower portion of stem.
2) CAUTION – Do not subject polycarbonate lens to temperatures above 270°F (130°C).

Options and Accessories

CONNECTIONS AND FITTINGS

Many thread types and sizes are manufactured on Tel-Tru CNC machines. 304SS and 316SS.

LENSES

Shatterproof and tempered glass, acrylic and polycarbonate plastic.

DIALS

Precision pad printing of custom logos, colored zones and special information on all dial sizes.

TAGGING

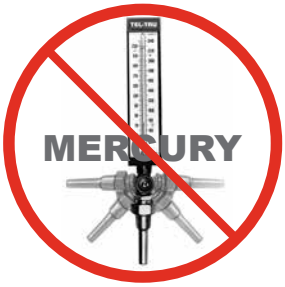
Paper, aluminum, 304SS or 316SS tags for engineering project requirements.

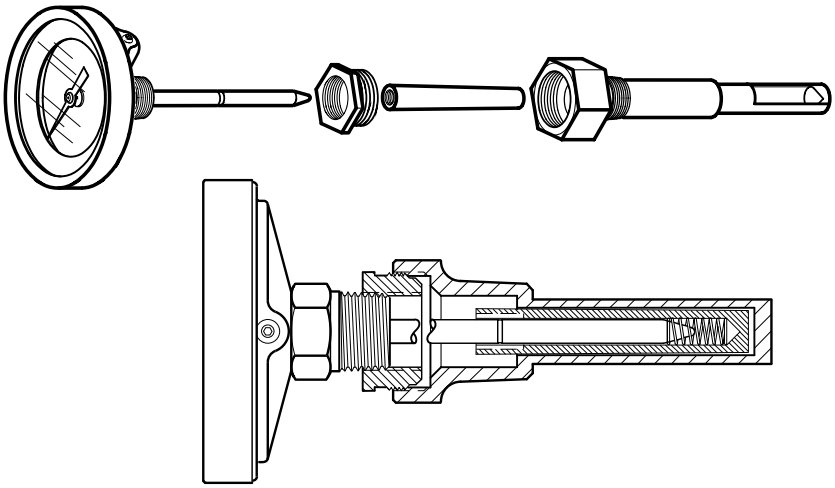
MOUNTING FLANGES

Various size mounting flanges for OEM and duct applications.

THERMOWELL ADAPTER KIT:

The AS-86 adapter kit was designed as a simple means of converting existing Industrial Glass Thermometer Wells for use with Bimetal Thermometers.





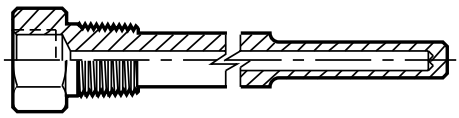
Thermowells

Recommended for pressure, corrosive fluid and high velocity applications.

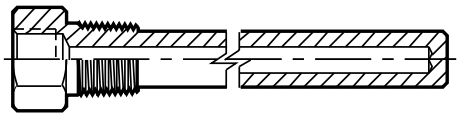
SEE TEL-TRU THERMOWELL CATALOG

For complete dimensions, sizes, available materials, optional features and configurations. For technical data on pressure and temperature ratings and maximum fluid velocity see http://www.teltru.com

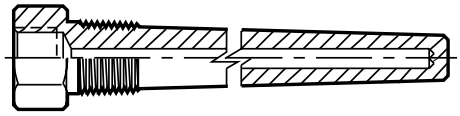
THREADED



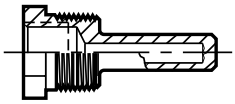
Stepped



Straight

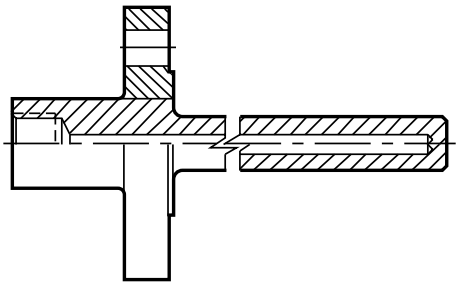


Tapered

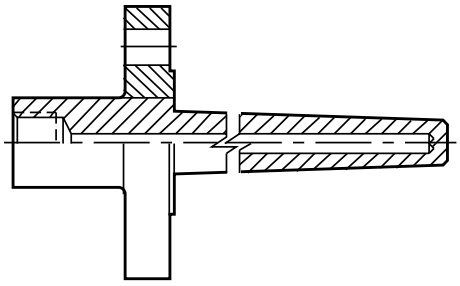


Limited Space

FLANGED

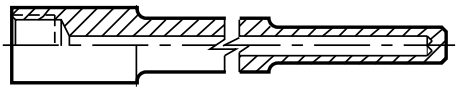


Straight

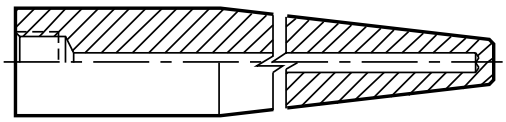


Heavy Duty Tapered

WELDED

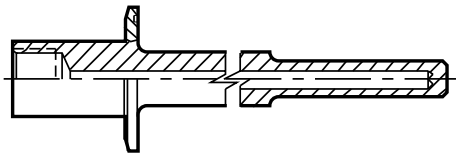


Socket Weld

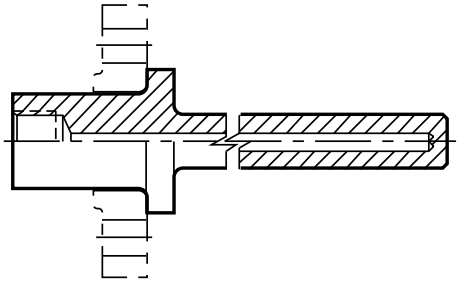


Weld-In

SANITARY



VAN STONE



Special Configuration and Application Thermometers

Tel-Tru bimetal thermometers are manufactured in the USA.

➤ OEM THERMOMETERS

- Custom manufactured from standard or special components.
- Flexible in meeting custom requirements.
- Just-in-time delivery schedules.
- Quantities– one unit or thousands.
- Multiple option configurations available depending on model type, dial size, temperature range and applications.

OPTIONS:

- **Dials-Custom Imprinting** - Name, logo, zones, colors
- **Temperature Ranges** - Over 120 available (varies by dial sizes)
- **Accuracy** - As required for application
- **Stem Lengths** - Standards, intermediate, or extra short
- **Connections** - Plain, threaded, or special
- **Certificates** - Compliance, Accuracy etc.
- **Lens** - Standard or optional materials
- **Silicone Filled or Silicone Free**
- **Tagging**
- **Special Testing**

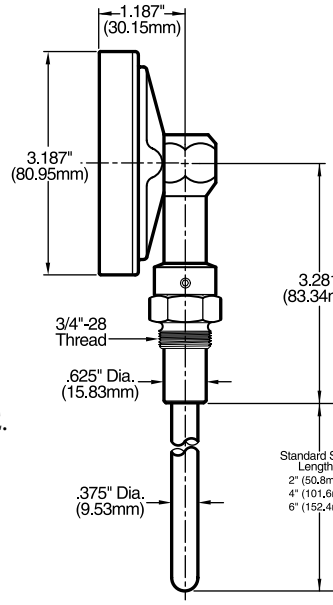
NOTE: Minimum quantities may be required for some options.

➤ HEAVY DUTY MARINE THERMOMETERS

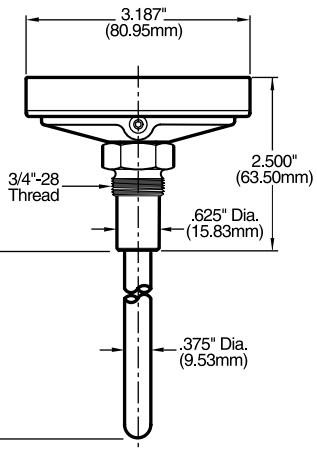
STANDARD FEATURES

- Shock and vibration resistant.
- Stainless steel construction.
- Plastic lens.
- Anti-parallax dial for easy reading.
- External recalibration adjustment.
- Accurate to 1% of scale range when testing without well.
- Interchangeable with 5" scale size "submarine" thermometers having same stem length.
- 3/4" - 28 UN-2A union connection assembly MUST be used with thermowell or bushing.
- Does not comply with MIL I-17244E.

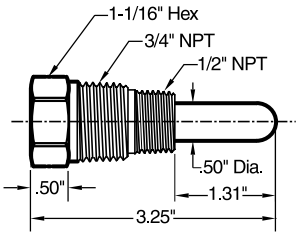
➤ BC-350R HD



➤ GT-300R HD



➤ THERMOWELL HD-MARINE



Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857 • E-mail: info@teltru.com • Web: www.teltru.com

SILICONE FILLED THERMOMETERS

- Cases may be silicone filled for additional dampening of extreme vibration, or to assure consistent performance in low process temperature/high environmental humidity applications.
- Available on all 2", 3", 4" and 5" industrial thermometers and LT-225/LT-225R.
- Silicone filled thermometers are recommended for use with process temperatures ranging from a minimum of -50°F (-45°C) to a maximum of 500°F (260°C).
- Use of silicone fill should be avoided where strong oxidizing agents such as oxygen, chlorine, nitric acid, and hydrogen peroxide are present.

THERMOMETERS WITH HEAVY DUTY POINTED STEMS AND DETACHABLE HANDLE

APPLICATIONS:

- Compost/Windrow Testing
- Soil/Asphalt Testing
- Meat Processing
- Mushroom Growing
- Can be used with 1/2" NPT connection.
- Stem diameter .250" or .375" (recommended).
- Stem diameter .375" with .250" tapered rod available.

SANITARY BIMETAL THERMOMETERS

- Heavy duty thermometers meet 3A Standard Number 74-06
- Tri-Clamp® sanitary fittings are integral to the thermometers
- Constructed of 316L SS wetted parts and 304SS non-contact parts
- Configurations include back connected, bottom connected, and adjustable angle models in a variety of dial sizes and stem lengths
- Hermetically sealed per ASME B40.3
- Ideal for the dairy processing industry, as well as food and beverage processing and pharmaceutical industries

For additional specifications, go to www.teltru.com/s-59-sanitary-bimetal.aspx

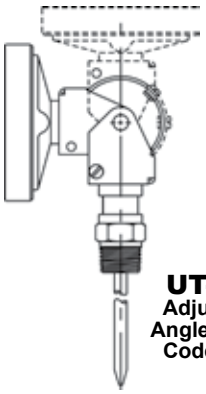
Tri-Clamp is a registered trademark of Tri-Clover, Inc.

Special Application Thermometers

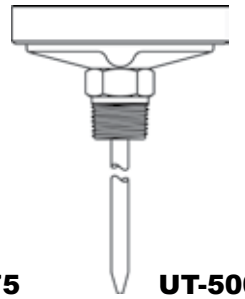
GLOW DIAL AND REFLECTIVE THERMOMETERS

- 5" Adjustable Angle or Back Connect
- Glow dial is luminescent coated aluminum
- Aluminum Reflective Pointer
- Two 304SS Reflective Clips snap onto the dial rim. You decide where you want to set each reflective clip--minimum and maximum limits can be indicated, which allows for on the spot customization
- Glow dials also available on models AD-10R and AD-44R (without clips)

This remarkably easy solution permits anyone viewing the thermometer, up close in the light of day or far away at night, to easily see if the process is operating within a designated safe zone. The thermometer can be read from a distance in low light conditions; **all you need is a flashlight!**



UT-575
Adjustable Angle, Model Code 641T



UT-500
Back Connect, Model Code 621T

For dimensions, see page 9 (UT-575) or page 11 (UT-500).

For additional specifications, go to www.teltru.com/s-16-glow-dial-reflective.aspx

5" GLOW DIAL RANGES

Range	°/Div.	Code
0/250°F	2°	**67**
0/300°F	5°	**57**
0/500°F	5°	**58**
20/240°F	2°	**59**
50/300°F	2°	**62**
50/400°F	5°	**63**
50/500°F	5°	**64**
50/550°F	5°	**68**
150/750°F	10°	**65**
200/1000°F	10°	**66**
-50/120°F, -45/50°C	2°, 1°	**25**
-40/160°F, -40/70°C	2°, 1°	**02**
0/250°F, -20/120°C	2°, 2°	**14**
50/500°F, 0/250°C	5°, 2°	**09**
0/100°C	1°	**76**
0/150°C	1°	**77**
0/200°C	2°	**78**
0/250°C	2°	**79**

PT-50R
Glow dial option, with 1" dial

For dimensions and ranges, see page 19.

MINIMUM AND MAXIMUM THERMOMETERS

User can easily set red and/or blue lazy hands so that minimum and/or maximum temperatures reached by a process will be indicated.

- MM models indicate both maximum AND minimum.
- MX models indicate maximum OR minimum only.
- 3" dia. or 5" dia. back connected with recalibration feature.

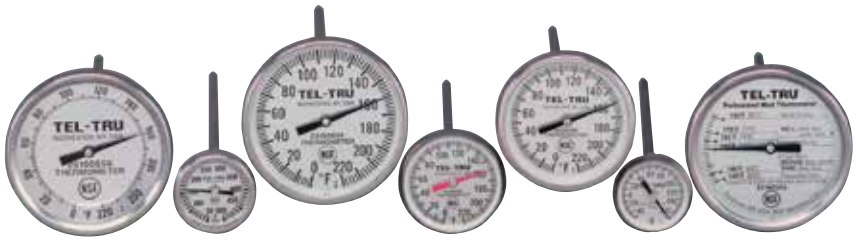
MX-325R
(With 3" dial)

MM-525R
(With 5" dial)

Special Application Thermometers and Check-Set® Thermometer Calibrators

➤ FOOD SERVICE THERMOMETERS

Tel-Tru offers a variety of NSF® approved Food Service Thermometers for Food/Beverage Processing, Food Service, Barbecue, Cooking, OEM Equipment and Retail.



APPLICATIONS

- Meat and Poultry Testing and Cooking
- Professional Food Testing
- Pocket Spot Check
- Gourmet
- Barbecue Pit and Grill
- Deep Fry/Candy

For additional specifications, go to www.teltru.com/s-44-food-service.aspx

➤ CHECK-SET® THERMOMETER CALIBRATORS

Environmental Safety and Health Professionals, Quality Assurance Managers and HACCP Coordinators in food processing/smoking, preparing/cooking, holding/serving and cooling/storage are using Check-Set Thermometer Calibrators to verify the accuracy of their dial and digital thermometers.

CHECK AND CALIBRATE AT YOUR CRITICAL TEMPERATURE POINT

- 40°F and 160°F / 5°C and 90°C - Dual cold and hot units.
- 40°F - Low temperature holding.
- 140°F - High temperature holding.
- 160°F - Temperature at which E. Coli and other pathogens are killed.
- 212°F - Point of boiling water
- Each unit serialized and certified traceable to the National Institute for Standards and Testing.
- Built in circuitry to warn if unit is more than 1°F out of calibration.
- Optional factory re-certification and maintenance program.

GENERAL CHECK-SET THERMOMETER CALIBRATOR SPECIFICATIONS:

Accuracy:	±0.2°F
Stability:	±0.06°F to ±0.09°F
Heating Time:	Approximately 3 – 8 minutes (varies with temperature set point)
Stem Diameter:	Up to .750"
Voltage:	90 to 130 VAC, 50/60 Hz
Power:	25 – 45 Watts
Weight:	9.0 lbs.
Housing Mat.:	Stainless Steel 304SS
Size:	Check-Set I HOT: 11 x 6⅝ x 3⅛" (279 x 168 x 79mm) All other models: 8¾ x 8⅞ x 4¼" (222 x 225 x 108mm)

NOTE: *Other custom temperature models available*

For additional specifications, go to www.teltru.com/checkset.aspx

Additional Products available from Tel-Tru

- Sanitary Bimetal Thermometers
- Industrial and Sanitary RTDs
- Industrial and Sanitary RTDs with Compact Transmitters
- Glow Dial Thermometers
- Digi-Tel™ Thermometers
- Thermowells
- HVAC Instruments
- Gas Actuated Thermometers
- Vapor Tension Thermometers
- Check-Set® Thermometer Calibrators
- Non-Contact Thermometers
- Surface Thermometers
- Pressure Transmitters
- Pressure Gauges
- Sanitary Pressure Gauges
- Solar Digital Pressure Gauges

Tel-Tru is a registered trademark of Tel-Tru Manufacturing Co.

Tel-Tru Manufacturing Company
408 St. Paul St., Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857
E-mail: info@teltru.com • Web: www.teltru.com

BT512B
© 2016

Temperature + Pressure | Since 1916

www.teltru.com

TEL-TRU MANUFACTURING CO.

Temperature + Pressure Instruments

TEL-TRU MANUFACTURING CO.
Temperature + Pressure Instruments

408 St. Paul Street
Rochester, NY 14605 USA
Phone: 800.232.5335
585.232.1440
Fax: 585.232.3857
E-mail: info@teltru.com

Bimetal Thermometers

Tel-Tru Manufacturing Company manufactures a complete line of bimetal thermometers in accordance with ASME B40.3 Standards. We have the largest selection of ranges and configurations available in the industry.

Standard Specifications Include:

- All-Welded 304SS Construction
- Dial Sizes of 1", 1-3/8", 1-3/4", 2", 3", 4", 5"
- Hermetically Sealed
- Easily Recalibrated
- NPT and BSPT Connections
- Overrange Protection
- Accuracy ±1% Full Span
- Stem Lengths available up to 120"
- Stems Diameters include .140", .150", .187", 6mm, .250", 8mm, and .375"
- 316SS Wetted Parts *Available*
- Silicone Filled *Available*
- Union Connection *Available*
- Custom Configurations *Available*

Pressure Gauges

Our line of pressure gauges and accessories may be used in various markets: oil, gas, petrochemical, drilling production, refining, pipelines, power, hydraulic, HVAC, food processing, service and storage, pool and spa, and irrigation industries. A variety of models, configurations, and options are available.

MODEL

- Model 10 — 1/2% Process, Solid Front, Blowout Back Case, Receiver, Altitude
- Model 30 — 1% Stainless Steel Dry or Liquid Filled
- Model 31 — 1% Stainless Steel Dry or Liquid Filled
- Model 33 — Industrial/Hydraulic
- Model 50 — Metal Case Utility
- Model 52 — 4-1/2" Mechanical Contractor

DIAPHRAGM SEALS

- Threaded, Flanged, Welded
- Mini Seals
- Sanitary

ACCESSORIES

- Ray Pressure Snubbers™
- Needle Valves
- Siphons
- Gauge Cocks

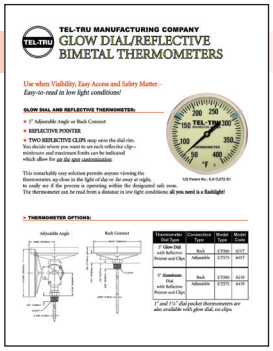
PRODUCTS AVAILABLE FROM TEL-TRU

www.teltru.com ✦ info@teltru.com

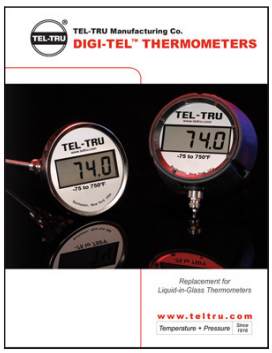
Temperature Products

*Tel-Tru has established a reputation for producing thermometers that are the **world standard** for quality workmanship and accuracy. Our focus today, as it was in 1916, is to meet customers' requirements with quality products, leading technology and responsive service. For extensive product information or to download product literature, visit:*
www.teltru.com/s-9-temperature-products.aspx

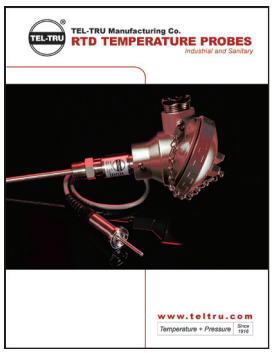
Bimetal Thermometers
These heavy-duty all stainless steel designs are available with a variety of dial sizes and a broad selection of temperature range and stem length configurations.



Glow Dial Thermometers
Tel-Tru Glow Dial Thermometers are ideal when visibility, easy access, and safety matter.

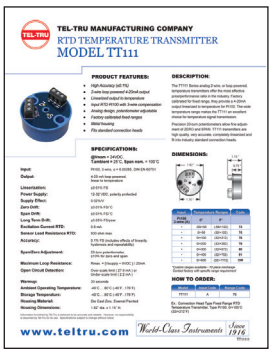


Digi-Tel™ Thermometers
Digi-Tel Thermometers combine the easy, quick visual reference feature of a local indicator and the precision readout of a digital thermometer.

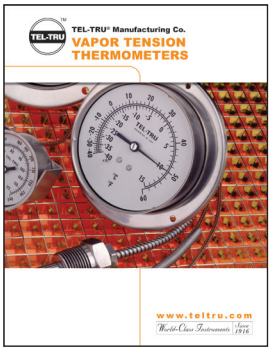


Industrial and Sanitary RTDs
Tel-Tru offers RTD probe assemblies, including hazardous environment approved models. They are designed with the most demanding industrial and sanitary applications in mind.

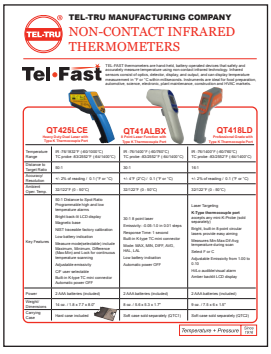
Integral RTD Transmitter Probes
RTD probe assemblies with built-in programmable microprocessor based transmitters are more compact than conventional RTD and transmitter assemblies. No connection head required!



RTD Temperature Transmitters
Factory calibrated for fixed range, these transmitters provide a 4-20mA output and select models also feature linearization to temperature for Pt100.

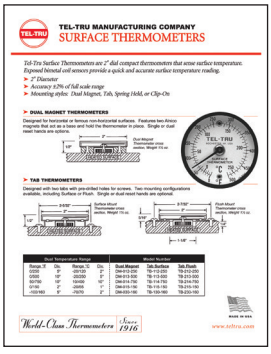


Remote Reading Thermometers
Tel-Tru Gas Actuated and Vapor Tension Thermometers offer dependability, durability, and accuracy for remote mounting applications.



Tel-Fast Non-Contact Thermometers
Tel-Fast is the most affordable hand-held, battery-operated sensor that safely *and* ac-curately measures surface temperature using non-contact infrared technology.

Thermowells
Tel-Tru Thermowells are of the highest quality material and workmanship. They are machined from solid bar stock for standard or high velocity requirements in a large selection of materials and coatings.



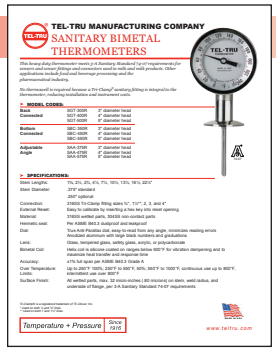
Surface Thermometers
Tel-Tru Surface Thermometers are designed to measure surface temperatures on a wide variety of surfaces and are available in several configurations.

PRODUCTS AVAILABLE FROM TEL-TRU

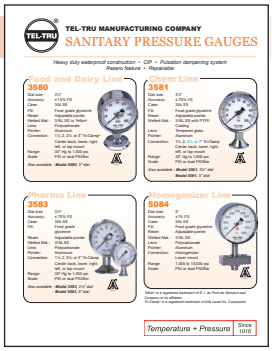
www.teltru.com ✦ info@teltru.com

Sanitary Products

Tel-Tru sanitary temperature and pressure instruments meet the 3-A Sanitary Standard 74-07 requirements, and are engineered to meet the stringent performance and material demands within dairy, food, chemical, biotechnology, and pharmaceutical environments.



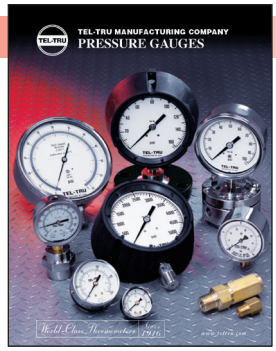
Sanitary Bimetal Thermometers
Tel-Tru Sanitary Bimetal Thermometers offer the high quality and accuracy of our world-class bimetal line of thermometers, and can be customized for practically any sterile system.



Sanitary Pressure Gauges
Tel-Tru Sanitary Pressure Gauges are engineered to meet the stringent performance and material demands within dairy, food, chemical, biotechnology and pharmaceutical environments.

Pressure Products

Rugged features make the line of stainless steel gauges a top choice for process, power and hydraulic requirements. Pressure transmitters are available in a compact all welded stainless steel housing with a variety of available connections. For extensive product information or to download product literature, visit: ***www.teltru.com/s-61-pressure-products.aspx***

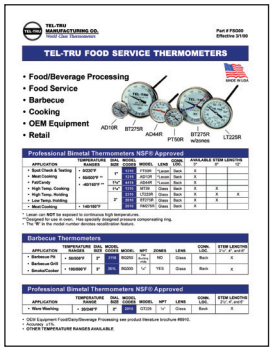


Pressure Gauges
Rugged features make the line of stainless steel gauges a top choice for process, power, hydraulic and OEM requirements. A full selection of dial sizes, pressure ranges, and case configurations are available.

Pressure Transmitters
Tel-Tru Pressure Transmitters have a compact all welded stainless steel housing. We offer a variety of connections for the pressure port and electrical connections for output signal transmission.

Food Service/Processing/Grilling

Tel-Tru offers a variety of temperature measurement products for Food/Beverage Processing, Food Service, Barbecue, Cooking, OEM Equipment, and Retail. For extensive product information or to download product literature, visit: ***www.teltru.com/food_service.asp***



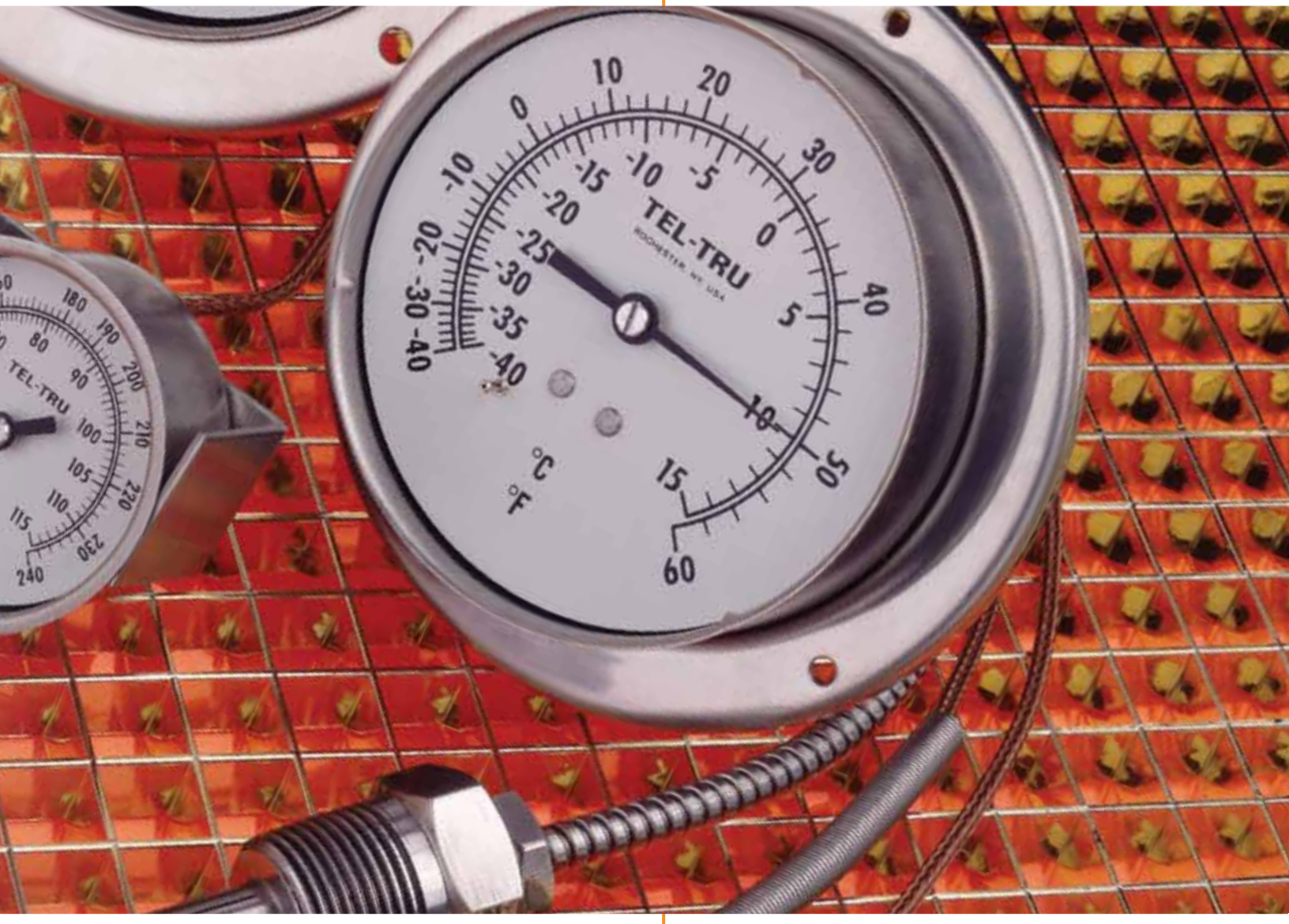
Food Service Thermometers
Tel-Tru offers a wide selection of NSF® approved meat/poultry thermometers, spot check and testing thermo-meters, and professional food testing thermometers.

Check-Set® Thermometer Calibrators
The Check-Set Calibrator is a dry block temperature calibrator that allows accurate verification of thermometer accuracy at the temperature point critical to the user's actual application.

Barbecue Thermometers
Tel-Tru offers a variety of NSF® approved food service thermometers for food and beverage processing, food service, barbecue, cooking, OEM equipment and retail.

TEL-TRU Manufacturing Co.

VAPOR TENSION THERMOMETERS



www.teltru.com

Temperature + Pressure | Since 1916

Vapor Tension Thermometers

Tel-Tru Manufacturing Company, for many years recognized as a leader in the manufacturing of Bimetal Dial Thermometers for industrial, OEM and laboratory purposes, now offers a complete line of Vapor Tension Thermometers.

Tel-Tru Vapor Tension Thermometers provide an accurate indication of temperatures within the recommended working zones. Dial graduations are non-linear with the distance between graduations increasing as the temperature range increases.

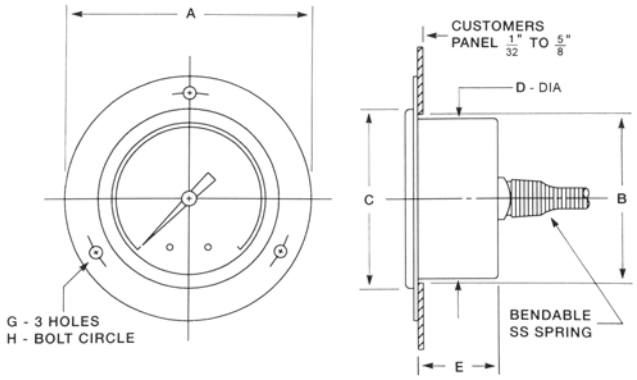
Tel-Tru Vapor Tension Thermometers offer dependability, durability, high accuracy, low ambient error and are available in various case sizes and styles.

Features

Case Size:	2", 2-1/2", 3-1/2", 4-1/2"
Case Type:	• Front flange • U clamp • Back flange • Front flange, semi flush • Adjustable bracket
Case Material:	304 Stainless Steel
Dial:	White coated aluminum with large black numbers and graduations. Easy to read from any angle.
Bulb:	Copper or Stainless Steel
Capillary:	Copper - plain or with braided armor 316 Stainless Steel - plain or with interlocking armor
WIndow:	Glass or polycarbonate
Pointer:	Slotted type for field zero adjustment
Accuracy:	Within one scale division in recommended working zone
Ranges:	From -40°F (-40°C) to 350°F (175°C)
Vibration Dampening:	Standard on all units

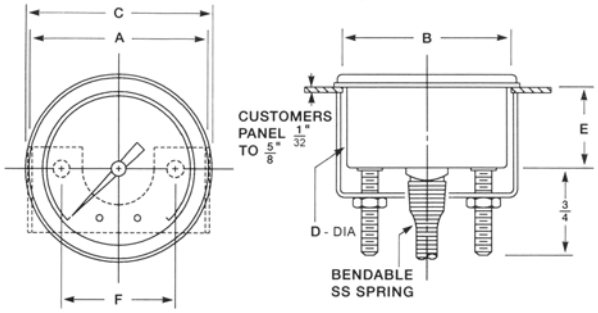
Front Flange Case

Code	Case Size	Conn.	A	Panel Hole B	C	D	E	G	H
V20 FB	2"	Back	2 15/16"	2 1/16"	2 11/64"	2 1/32"	31/32"	9/64"	2 9/16"
V25 FB	2 1/2"	Back	3 11/16"	2 39/64"	2 7/8"	2 9/16"	1"	11/64"	3 5/16"



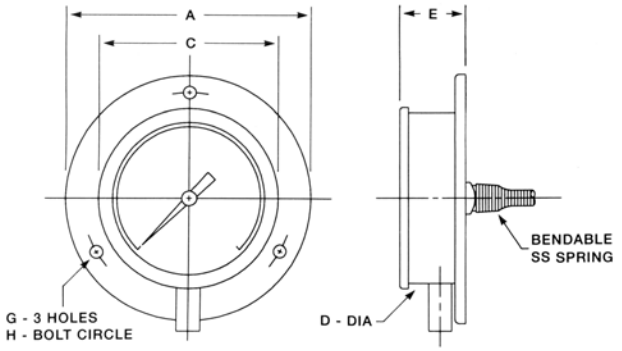
U-Clamp Case

Code	Case Size	Conn.	A	Panel Hole B	C	D	E	F
V20 UB	2"	Back	2 7/32"	2 1/16"	2 11/16"	2 1/32"	31/32"	1 3/8"
V25 UB	2 1/2"	Back	2 13/16"	2 39/64"	2 7/8"	2 9/16"	1"	2"
V35 QB	3 1/2"	Back	3 7/8"	3 5/8"	3 29/32"	3 19/32"	1"	3 1/16"



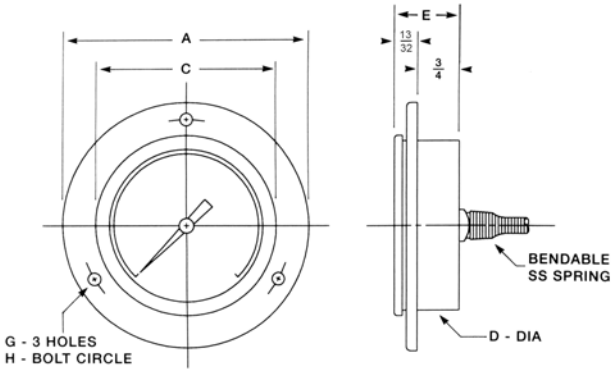
Back Flange Case

Code	Case Size	Conn.	A	C	D	E	G	H
V35 BB	3 1/2"	Back	4 3/4"	3 11/16"	3 19/32"	1 13/32"	5/32"	4 5/16"
V35 BL	3 1/2"	Bottom	4 3/4"	3 11/16"	3 19/32"	1 13/32"	5/32"	4 5/16"
V45 BB	4 1/2"	Back	5 7/8"	4 11/16"	4 19/32"	1 13/32"	7/32"	5 3/8"
V45 BL	4 1/2"	Bottom	5 7/8"	4 11/16"	4 19/32"	1 13/32"	7/32"	5 3/8"



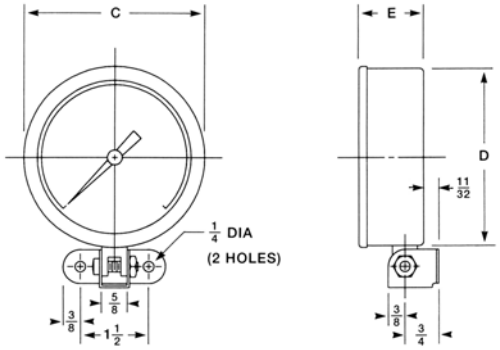
Semi-Flush Case

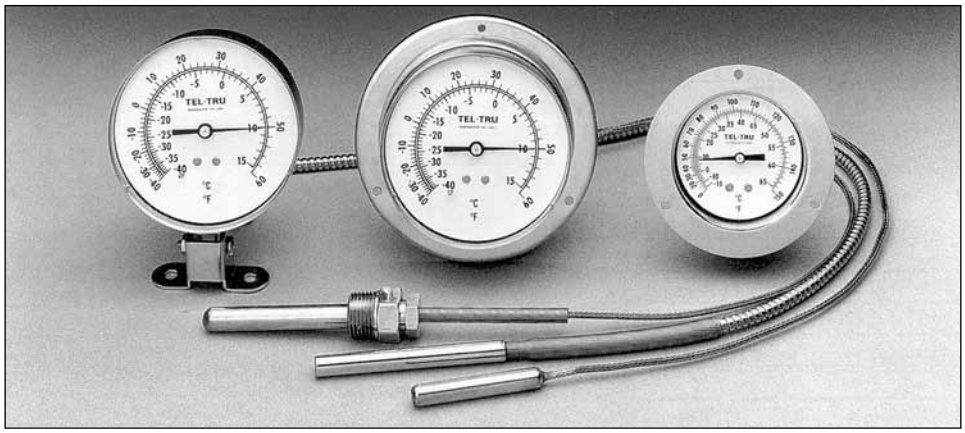
Code	Case Size	Conn.	A	C	D	E	G	H	Panel Hole
V35 RB	3 ½"	Back	4 ¾"	3 11⁄16"	3 19⁄32"	1 5⁄32"	5⁄32"	4 5⁄16"	3 5⁄8"
V45 RB	4 ½"	Back	5 7⁄8"	4 11⁄16"	4 19⁄32"	1 5⁄32"	7⁄32"	5 3⁄8"	4 5⁄8"



Adjustable Bracket Case

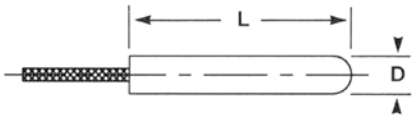
Code	Case Size	Conn.	C	D	E
V35 ZL	3 ½"	Bottom	3 11⁄16"	3 19⁄32"	1 ¼"
V45 ZL	4 ½"	Bottom	4 11⁄16"	4 19⁄32"	1 ¼"





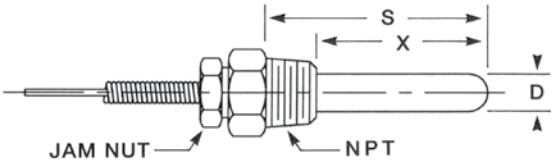
Process Connection & Capillary

Braided Capillary with Plain Bulb

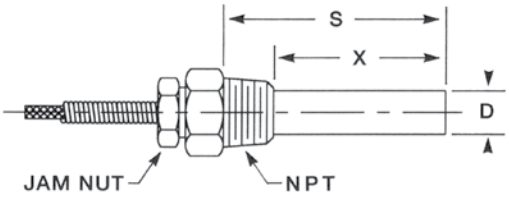


Plain Capillary with Plain Bulb

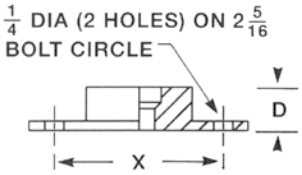
Armored Capillary with Union Connection



Armored Capillary with Thermowell



Flange Connection



Bulb Dimensions

WITH FITTING - UNION OR THERMOWELL

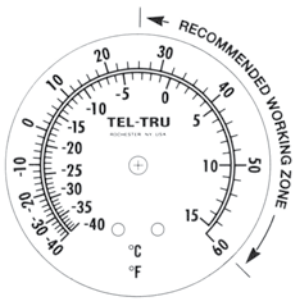
Table 4 Code	Union Connection			Thermowell Connection			Flange Connection	
	X	S	D	X	S	D	X	D
1	1 13/16"	2 3/8"	7/16"	1 15/16"	2 1/2"	9/16"	2 3/16"	7/16"
2	2 5/8"	3 3/8"	7/16"	2 5/8"	3 3/8"	9/16"	3"	7/16"
3	4 5/8"	5 3/8"	7/16"	4 5/8"	5 3/8"	9/16"	5"	7/16"
4	6 7/8"	7 3/8"	7/16"	6 5/8"	7 3/8"	9/16"	7"	7/16"

Note "X" for flange connection is the insertion length from the tip of the bulb to the face of the flange (not pictured)

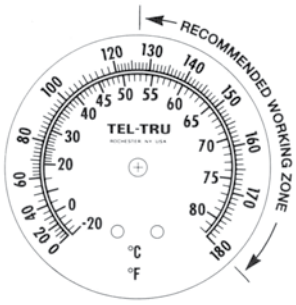
NO FITTING - PLAIN BULB

Table 4 Code	Plain Bulb	
	L	D
6	2 1/2"	3/8"
2	3 7/16"	3/8"
3	4 7/8"	3/8"
4	7 7/8"	3/8"

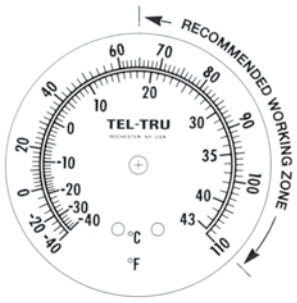
Vapor Thermometer Dials



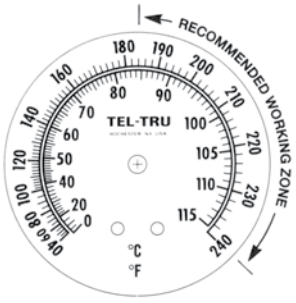
Code DA -40/60°F -40/15°C



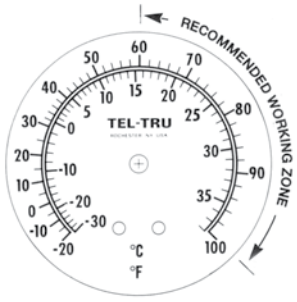
Code DF 0/180°F -20/82°C



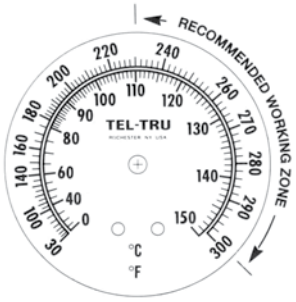
Code DB -40/110°F -40/43°C



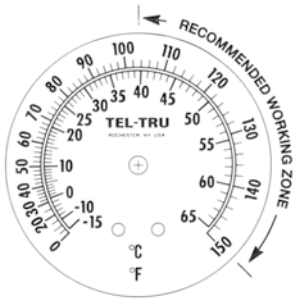
Code DG 40/240°F 0/115°C



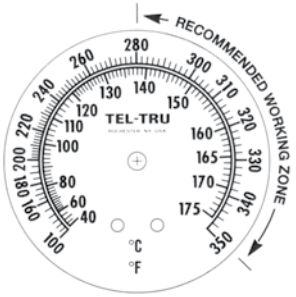
Code DC -20/100°F -30/38°C



Code DH 30/300°F 0/150°C



Code DE 0/150°F -15/65°C



Code DJ 100/350°F 40/175°C

Note: Accuracy is ± one graduation in the recommended working zone

How to Order: WITH FITTING - UNION OR THERMOWELL

HOW TO ORDER WITH FITTING - UNION OR THERMOWELL:
From each table select the dial size, case material/type, case front and window, process conn. and material, bulb & capillary, bulb dimension, capillary length, dual temperature range and options. Combine to complete your Vapor Tension Thermometer.

EXAMPLE:
2½" SS U-clamp back connection, glass lens w/SS ring, union conn. ½" NPT 316SS, 316SS bulb & SS plain capillary, 7⁄16" x 2½", 5', 0/150°F and -15/65°C, additional vibration dampening

TABLE 1A and 1B Dial Size, Case Material/ Type Code	Case Front & Window Code	TABLE 2 Process Conn. & Material Code	TABLE 3 Bulb & Capillary Code	TABLE 4 Bulb Dimension Code	TABLE 5 Capillary Length Code	TABLE 6 Temperature Range Code	TABLE 7 Options Code
V25UB	4	13	9	1	05	DE	1

WITH FITTING - UNION OR THERMOWELL

TABLE 1A & 1B - DIAL SIZE, CASE MATERIAL/TYPE & CASE FRONT AND WINDOW

Dial Size	Code		Code	
2"	V20FB	SS Front flange, back conn.	3	Lexan snap in lens
	V20UB	SS U-clamp, back conn.	4	Glass lens w/SS ring
			8	Glass lens w/crimped SS ring, IP66 (U-clamp only)
			9	Lexan threaded lens
2½"	V25FB	SS Front flange, back conn.	3	Lexan snap in lens
	V25UB	SS U-clamp, back conn.	4	Glass lens w/SS ring
			8	Glass lens w/crimped SS ring, IP66 (U-clamp only)
			9	Lexan threaded lens
3½"	V35QB	SS U-clamp, back conn.	3	Lexan snap in lens
	V35BB	SS Back flange, back conn.	5	Glass lens w/chrome/brass ring (U-clamp only)
	V35BL	SS Back flange, lower conn.	9	Lexan threaded (U-clamp only)
	V35RB	SS Front flange, semi-flush		
	V35ZL	SS Adjustable bracket, lower conn.		
4½"	V45BB	SS Back flange, back conn.	3	Lexan snap in lens
	V45BL	SS Back flange, lower conn.		
	V45RB	SS Front flange, semi-flush, back conn.		
	V45ZL	SS Adjustable bracket, lower conn.		

TABLE 2 PROCESS CONN. & MATERIAL

Code	
11	Union conn. ½" NPT, Brass
12	Union conn. ½" NPT, 304SS
13	Union conn. ½" NPT, 316SS
21	Union conn. ¾" NPT, Brass
22	Union conn. ¾" NPT, 304SS
23	Union conn. ¾" NPT, 316SS
31	Thermowell ½" NPT, Brass
32	Thermowell ½" NPT, 304SS
33	Thermowell ½" NPT, 316SS
41	Thermowell ¾" NPT, Brass
42	Thermowell ¾" NPT, 304SS
43	Thermowell ¾" NPT, 316SS
75	Air duct flange union, alum.

TABLE 3 BULB & CAPILLARY

Code	
5	Copper bulb & copper braided capillary
8	316SS bulb & SS armored capillary
9	316SS bulb & SS plain capillary

TABLE 4 BULB DIMENSION

Code	
1	7⁄16" x 2.5" (10' max. cap. length)
2	7⁄16" x 3.4" (25' max. cap. length)
3	7⁄16" x 5.4" (50' max. cap. length)
4	7⁄16" x 7.43" (99' max. cap. length)

TABLE 5 CAPILLARY LENGTH IN FEET

Code	
XX	Use 2 digits - ex. 5 feet equals code 05

TABLE 6 DUAL TEMPERATURE

Code	Fahrenheit °F	Celsius °C
DA	-40/60	-40/15
DB	-40/110	-40/43
DC	-20/100	-30/38
DD	-20/120	-30/49
DE	0/150	-15/65
DF	0/180	-20/82
DG	40/240	0/115
DH	30/300	0/150
DJ	100/350	40/175

TABLE 7 OPTIONS

Code	
0	NONE
1	Additional vibration dampening

How to Order: NO FITTING - PLAIN BULB

HOW TO ORDER PLAIN BULB - NO FITTING:
From each table select the dial size, case material/type, case front and window, process conn. and material, bulb and capillary, bulb dimension, capillary length, dual temperature range and options. Combine to complete your Vapor Tension Thermometer description.

EXAMPLE:
2½" SS U-clamp back connection, glass lens w/SS ring, plain bulb, no fitting, copper bulb & copper braided capillary,
⅜" x 3.4", 5', 0/150°F & -15/65°C, None (options)

TABLE 1A &1B Dial Size, Case Material/Type Code	TABLE 1A &1B Case Front & Window Code	TABLE 2 Process Conn. & Material Code	TABLE 3 Bulb & Capillary Code	TABLE 4 Bulb Dimension Code	TABLE 5 Capillary Length Code	TABLE 6 Temperature Range Code	TABLE 7 Options Code
V25UB	4	90	2	2	05	DE	0

PLAIN BULB - NO FITTING

TABLE 1A & 1B
DIAL SIZE, CASE MATERIAL/TYPE & CASE FRONT AND WINDOW

Dial Size	Code		Code	
2"	V20FB	SS Front flange, back conn.	3	Lexan snap in lens
	V20UB	SS U-clamp, back conn.	4	Glass lens w/SS ring
			8	Glass lens w/crimped SS ring,IP66 (U-clamp only)
			9	Lexan threaded lens
2½"	V25FB	SS Front flange, back conn.	3	Lexan snap in lens
	V25UB	SS U-clamp, back conn.	4	Glass lens w/SS ring
			8	Glass lens w/crimped SS ring, IP66 (U-clamp only)
			9	Lexan threaded lens
3½"	V35QB	SS U-clamp, back conn.	3	Lexan snap in lens
	V35BB	SS Back flange, back conn.	5	Glass lens w/chrome/brass ring (U-clamp only)
	V35BL	SS Back flange, lower conn.	9	Lexan threaded (U-clamp only)
	V35RB	SS Front flange, semi-flush		
	V35ZL	SS Adjustable bracket, lower conn.		
4½"	V45BB	SS Back flange, back conn.	3	Lexan snap in lens
	V45BL	SS Back flange, lower conn.		
	V45RB	SS Front flange, semi-flush, back conn.		
	V45ZL	SS Adjustable bracket, lower conn.		

TABLE 2
PROCESS CONN. & MATERIAL

Code	
90	Plain bulb, no fitting

TABLE 3
BULB & CAPILLARY

Code	
2	Copper bulb & copper braided capillary
3	316SS bulb & SS plain capillary

TABLE 4
BULB DIMENSION

Code	
6	⅜" x 2.5" (5' max. cap. length)
2	⅜" x 3.4" (25' max. cap. length)
3	⅜" x 4.9" (50' max. cap. length)
4	⅜" x 7.9" (99' max. cap. length)

TABLE 5
CAPILLARY LENGTH IN FEET

Code	
XX	Use 2 digits - ex. 5 feet equals code 05

TABLE 6
DUAL TEMPERATURE

Code	Fahrenheit °F	Celsius °C
DA	-40/60	-40/15
DB	-40/110	-40/43
DC	-20/100	-30/38
DE	0/150	-15/65
DF	0/180	-20/82
DG	40/240	0/115
DH	30/300	0/150
DJ	100/350	40/175

TABLE 7
OPTIONS

Code	
0	NONE
1	Additional vibration dampening

ADDITIONAL PRODUCTS AVAILABLE FROM TEL-TRU

- Bimetal Thermometers
- Industrial & Sanitary RTDs
- Temperature Transmitters
- Digi-Tel™ Thermometers
- Gas Actuated Thermometers
- Thermowells
- Check-Set® Thermometer Calibrators
- Infrared Thermometers
- Surface Thermometers
- Pressure Transmitters
- Pressure Gauges
- HVAC Instruments

VT113a
© 2018

TEL-TRU Manufacturing Co.

GAS ACTUATED THERMOMETERS

www.teltru.com

Temperature + Pressure	Since 1916

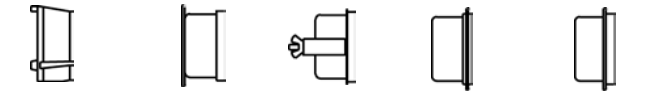
REMOTE MOUNT GAS ACTUATED THERMOMETERS

Tel-Tru's Gas Actuated Thermometers are of a molecular sieve design utilizing inert gas and activated carbon to produce much lower internal pressures than conventional gas thermometers. As a result, they offer dependability, durability, high accuracy--low ambient error, and extreme over-range capabilities.

➤ REMOTE SPECIFICATIONS:

Case Size:	2-1/2", 3-1/2", 4", 4-1/2", 6", or 10"
Dial:	Aluminum, white, with black markings
Pointer:	Aluminum, black
Lens:	Glass
Connection:	Stainless steel *(see Table 5)*
Bulb:	Stainless steel *(see Table 2)*
Range:	(*see Table 3)*
Capillary:	Stainless steel (*see Table 4)*

➤ MOUNTING STYLES:



Phenolic Wall Mount | SS Back Flange | SS U-Clamp | SS Front Flange Flush | SS Front Flange Semi-Flush

➤ HOW TO ORDER REMOTE MOUNT GAS ACTUATED THERMOMETER:

From each table select the case size and mounting style, bulb style, temperature range, line length and options. Combine to complete your Remote Mounted Gas Actuated Thermometer description. Order accessories separately.

EXAMPLE:

4-1/2" polypropylene wall mount, 12" bendable extension w/1/2" NPT sliding union, 20/240°F, 5' standard armor-SS spring coil, back conn., plastic lens.

TABLE 1	TABLE 2	TABLE 3	TABLE 4	TABLE 5	TABLE 6
RT4510T7K	1	FK	05	B	DL

TABLE 1 CASE SIZE:

MODEL	2-1/2"		3-1/2"					4"			4-1/2"						6"			10"		
	RT2510-A7P	RT2510-A7L	RT3510-E7K	RT3510-E7P	RT3510-E7R	RT3515-H7K	RT3515-H7L	RT4010-G7P	RT4010-G7R	RT4015-F7K	RT4510-T7K	RT4515-I7K	RT4515- I7L	RT4515-I7P	RT4520-D7K	RT4520-D7L	RT6015-N7K	RT6015-N7L	RT6015-N7P	RT1015-K7K	RT1015-K7R	RT1015-K7P
CASE MATERIAL AND MOUNTING STYLE																						
Polypropylene Wall Mount											X											
Stainless Steel Back Flange			X			X				X		X			X		X			X		
Stainless Steel U-Clamp	X			X				X						X					X			X
Stainless Steel Front Flange		X			X				X							X					X	
Stainless Steel Front Flange, Semi-Flush							X						X					X					

TABLE 2 BULB STYLE

	Code
12" Bendable Ext. w/1/2" NPT Sliding Union	1
18" Bendable Ext. w/1/2" NPT Sliding Union	2
24" Bendable Ext. w/1/2" NPT Sliding Union	5
Plain Bulb w/10" Rigid Ext. and 1/2" NPT Union on Armor	8
Plain Bulb w/10" Rigid Ext. - No Union	3
Plain Bulb - No Extension - No Union	6
Short Bulb - 1.18" active bulb with 1/2" NPT (max. cap. length 15 ft.)	A
Short Bulb - 7/16" OD x 1-5/8" insertion, 3/4" NPT 316SS Thermowell (max. temp. 750°F/400°C - max. cap. length 20 ft.)	4
1/4" Plain Diam. Bulb - Lgth. Based On Temp. Range and Capillary Lgth. (6" min.)	7
1/4" Diam. x 6" Lgth. w/12" bend ext. & 1/2" NPT Sliding Union	0

TABLE 3 RANGES (Other Ranges Available, Consult Factory)

Fahrenheit °F			Celsius °C		
Range	°Div.	Code	Range	°Div.	Code
-320/200	5	FA	-200/100	5	CA
-120/120	2	FB	-80/40	1	CB
-40/180	2	FG	-40/80	1	CG
-20/120	1	FH	-30/50	1	CH
20/160	1	FJ	-10/70	1	CJ
0/150	1	FC	-10/115	1	CD
20/240	2	FK	0/120	2	CK
50/300	2	FL	10/150	1	CL
50/400	5	FM	0/200	2	CM
50/550	5	FN	0/300	5	CN
50/750	5	FR	0/400	5	CR
400/1200	10	FT	200/650	5	CT

DUAL TEMPERATURE RANGES

Fahrenheit °F	Celsius °C	Code
-120/120	-85/50	DB
-20/120	-30/49	DH
0/120	-18/50	DD
20/240	-5/110	DK
50/550	10/290	DN
400/1200	200/650	DT

Tel-Tru Manufacturing Company
408 St. Paul Street, Rochester, New York 14605 USA
Phone: 585-232-1440 • 800-232-5335 • Fax: 585-232-3857 • E-mail: info@teltru.com • Web: www.teltru.com

TABLE 4 LINE LENGTH	Code
5 ft. Standard Armor-SS Spring Coil *	**05**
10 ft. Standard Armor-SS Spring Coil *	**10**
15 ft. Standard Armor-SS Spring Coil *	**15**
20 ft. Standard Armor-SS Spring Coil *	**20**
30 ft. Standard Armor-SS Interlocking	**30**
40 ft. Standard Armor-SS Interlocking	**40**
50 ft. Standard Armor-SS Interlocking	**50**

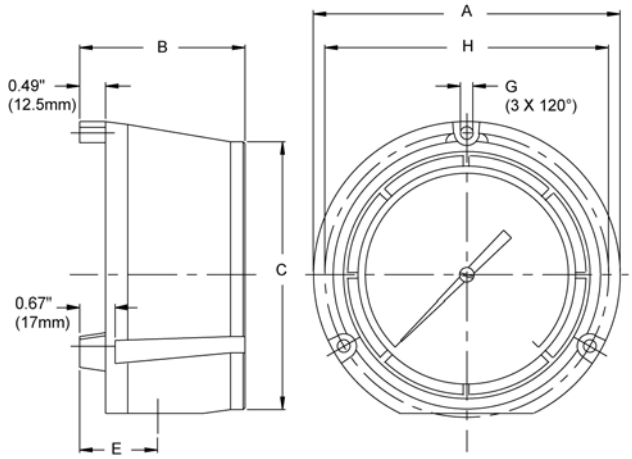
* For SS Interlocking Armor, See TABLE 6, Option S.

CASE SIZE:		**2-1/2"**		**3-1/2"**					**4"**			**4-1/2"**						**6"**			**10"**		
MODEL		RT2510-A7P	RT2510-A7L	RT3510-E7K	RT3510-E7P	RT3510-E7R	RT3515-H7K	RT3515-H7L	RT4010-G7P	RT4010-G7R	RT4015-F7K	RT4510-T7K	RT4515-I7K	RT4515- I7L	RT4515-I7P	RT4520-D7K	RT4520-D7L	RT6015-N7K	RT6015-N7L	RT6015-N7P	RT1015-K7K	RT1015-K7R	RT1015-K7P
TABLE 5 CONNECTION	**Code**																						
Bottom Conn.	**A**		X	X		X	X			X	X	X	X	X	X	X		X	X		X	X	
Back Conn.	**B**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TABLE 6 OPTIONS																							
Acrylic Lens	**D**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	std.	std.	X	X	X	X	X	X
Plain Capillary-No Armor	**E**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Shatterproof Lens	**F**		X	X	X	X	X	X	X	X	X	X	X	X	X			X	X	X	X	X	X
Electric Contact Switch	**G**											X											
Red Set Hand	**L**	X										X	X	X	X	X	X	X	X	X	X	X	X
Flush Mounting Ring	**M**											X											
SS Interlocking Armor (20 ft. and under)	**S**	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

NOTE: Consult factory for other options and accessories.

➤ POLYPROPYLENE WALL MOUNT:

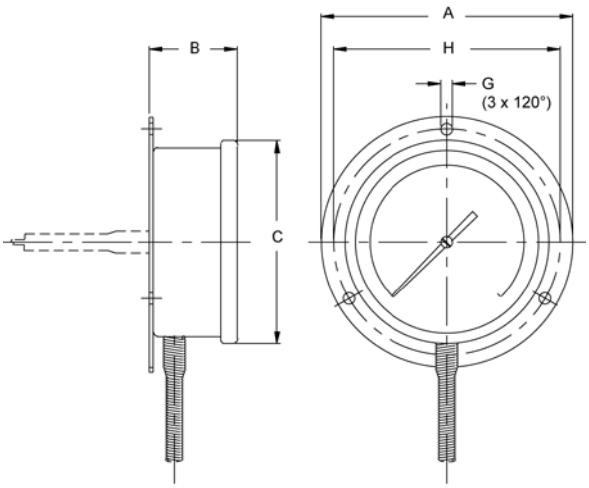
NOTE: Remote Mount drawings continue on next page.



SIZE	MODEL	A	B	C	E	G	H
4.5"	RT4510-T7K	5.83" (148.00mm)	3.15" (80.00mm)	5.08" (129.00mm)	1.48" (37.50mm)	0.24" (6.10mm)	5.39" (137.00mm)

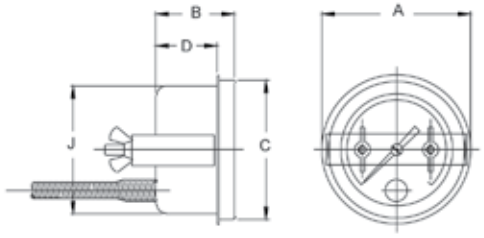
REMOTE MOUNT GAS ACTUATED DRAWINGS

➤ STAINLESS STEEL BACK FLANGE:



SIZE	MODEL	A	B	C	G	H
3.5"	RT3510-E7K	4.78" (121.41mm)	1.69" (43.00mm)	3.88" (98.50mm)	0.22" (5.59mm)	4.31" (109.47mm)
3.5"	RT3515-H7K	4.78" (121.41mm)	1.25" (31.75mm)	4.00" (101.60mm)	0.22" (5.59mm)	4.31" (109.47mm)
4.0"	RT4015-F7K	5.20" (132.00mm)	2.00" (51.00mm)	3.98" (101.00mm)	0.22" (5.59mm)	4.57" (116.00mm)
4.5"	RT4520-D7K	5.88" (149.35mm)	1.41" (35.81mm)	4.69" (119.13mm)	0.22" (5.59mm)	5.38" (136.65mm)
4.5"	RT4515-I7K	5.87" (149.00mm)	2.07" (52.50mm)	5.04" (128.00mm)	0.22" (5.59mm)	5.38" (136.65mm)
6.0"	RT6015-N7K	7.56" (192.00mm)	2.26" (57.50mm)	6.26" (159.00mm)	0.24" (6.00mm)	7.00" (178.00mm)
10.0"	RT1015-K7K	11.22" (285.00mm)	2.17" (55.00mm)	9.88" (251.00mm)	0.23" (5.80mm)	10.63" (270.00mm)

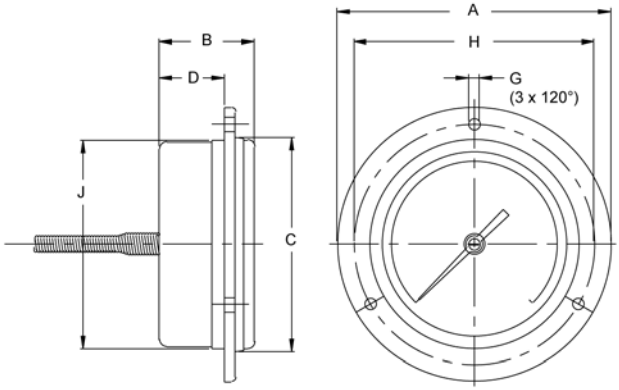
➤ STAINLESS STEEL U CLAMP:



SIZE	MODEL	A	B	C	D	J
2.5"	RT2510-A7P	2.83" (72.00mm)	1.50" (38.00mm)	2.60" (66.00mm)	1.26" (32.00mm)	2.52" (64.00mm)
3.5"	RT3510-E7P	Not Applicable	1.60" (40.50mm)	3.88" (98.50mm)	1.30" (33.00mm)	3.60" (91.50mm)
4.0"	RT4010-G7P	4.33" (110.00mm)	1.81" (46.00mm)	3.98" (101.00mm)	1.42" (38.00mm)	3.98" (101.00mm)
4.5"	RT4515-I7P	5.31" (135.00mm)	1.99" (50.50mm)	5.04" (128.00mm)	1.16" (29.50mm)	4.53" (115.00mm)
6.0"	RT6015-N7P	6.46" (164.00mm)	2.13" (54.00mm)	6.25" (159.00mm)	1.45" (37.00mm)	5.83" (148.20mm)
10.0"	RT1015-K7P	10.31" (262.00mm)	2.09" (53.00mm)	9.88" (251.00mm)	1.81" (45.00mm)	9.80" (249.00mm)

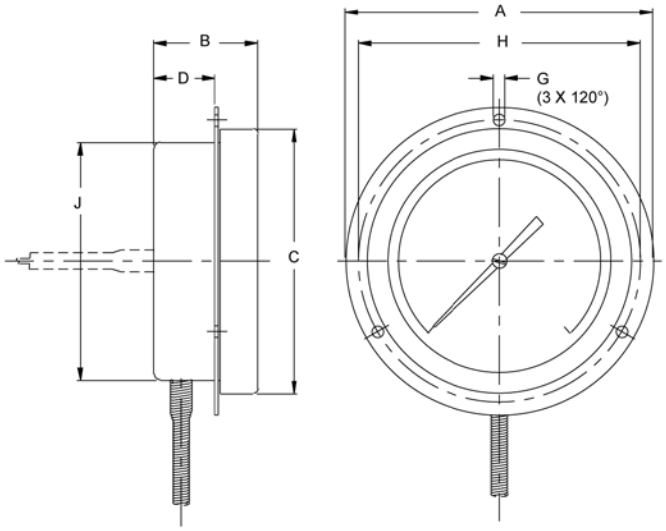
Important Note: RTXX15 models have Bayonet Rings.

➤ STAINLESS STEEL FRONT FLANGE, FLUSH:



SIZE	MODEL	A	B	C	D	G	H	J
2.5"	RT2510-A7L	3.35" (85.00mm)	1.50" (38.00mm)	2.52" (64.00mm)	1.26" (32.00mm)	0.16" (4.00mm)	2.95" (75.00mm)	2.60" (66.00mm)
3.5"	RT3510-E7R	4.78" (121.41mm)	1.60" (40.50mm)	3.88" (98.50mm)	1.22" (31.00mm)	0.22" (5.59mm)	4.31" (139.47mm)	3.60" (91.50mm)
4.0"	RT4010-G7R	5.20" (132.00mm)	1.81" (46.00mm)	3.98" (101.00mm)	1.24" (31.50mm)	0.22" (5.59mm)	4.57" (116.00mm)	3.98" (101.00mm)
4.5"	RT4520-D7L	5.88" (149.35mm)	1.22" (30.99mm)	4.69" (119.13mm)	0.75" (19.05mm)	0.22" (5.59mm)	5.38" (136.6mm)	4.59" (116.59mm)
10.0"	RT1015-K7R	11.22" (285.00mm)	2.09" (53.00mm)	9.88" (251.00mm)	1.73" (43.95mm)	0.23" (5.80mm)	10.6" (270.00mm)	9.90" (251.50mm)

➤ STAINLESS STEEL FRONT FLANGE, SEMI-FLUSH:

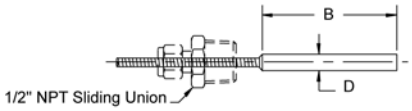


SIZE	MODEL	A	B	C	D	G	H	J
3.5"	RT3515-H7L	4.78" (121.41mm)	1.25" (31.75mm)	4.00" (101.60mm)	0.50" (12.70mm)	0.22" (5.59mm)	4.31" (109.47mm)	3.60" (91.44mm)
4.5"	RT4515-I7L	5.87" (149.00mm)	1.99" (50.50mm)	5.04" (128.00mm)	1.16" (29.50mm)	0.22" (5.59mm)	5.38" (136.60mm)	4.53" (115.00mm)
6.0"	RT6015-N7L	7.56" (192.00mm)	2.13" (54.00mm)	6.28" (159.00mm)	1.32" (33.50mm)	0.24" (6.00mm)	7.00" (178.00mm)	5.95" (151.20mm)

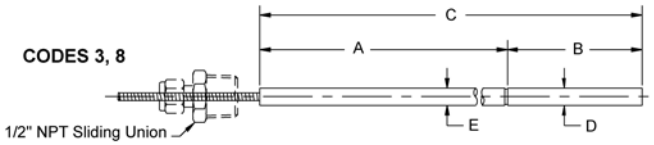
Tel-Tru Manufacturing Company
408 St. Paul Street, Rochester, New York 14605 USA
Phone: 585-232-1440 • 800-232-5335 • Fax: 585-232-3857 • E-mail: info@teltru.com • Web: www.teltru.com

➤ REMOTE MOUNT BULB STYLES:

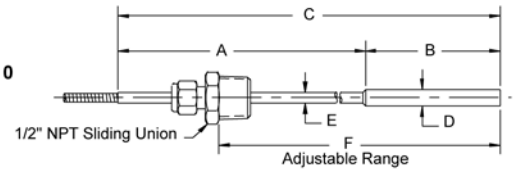
CODES 6, 7, A



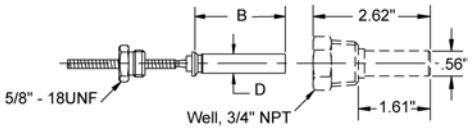
CODES 3, 8



CODES 1, 2, 5, 0



CODES 4

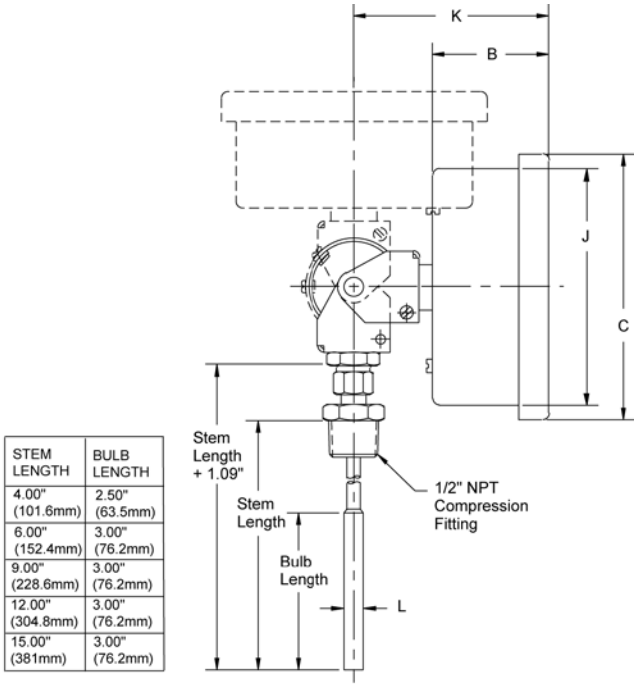


BULB STYLE	CODE	A	B	C	D	E	F
Plain Bulb, No Union Connection	7	Not Applicable	*	Not Applicable	1/4" (6.50mm)	Not Applicable	Not Applicable
Plain Bulb, No Union Connection	6	Not Applicable	3" (76.00mm)	Not Applicable	3/8" (9.50mm)	Not Applicable	Not Applicable
Rigid Extension, No Union Connection	3	10" (254.00mm)	3" (76.00mm)	13" (330.20mm)	3/8" (9.50mm)	3/8" (9.50mm)	Not Applicable
Rigid Extension, 1/2" NPT Sliding Union on Armor	8	10" (254.00mm)	3" (76.00mm)	13" (330.20mm)	3/8" (9.50mm)	3/8" (9.50mm)	Capillary Length
Bendable Extension, 12", 1/2" NPT Sliding Union	1	12" (305.00mm)	3" (76.00mm)	15" (381.00mm)	3/8" (9.50mm)	1/4" (6.50mm)	4" - 14" (102-356mm)
Bendable Extension, 12", 1/2" NPT Sliding Union	0	12" (305.00mm)	6" (152.00mm)	18" (457.00mm)	1/4" (6.50mm)	1/4" (6.50mm)	7" - 17" (178-432mm)
Bendable Extension, 18", 1/2" NPT Sliding Union	2	18" (457.00mm)	3" (76.00mm)	21" (533.00mm)	3/8" (9.50mm)	1/4" (6.50mm)	4" - 20" (102-508mm)
Bendable Extension, 24", 1/2" NPT Sliding Union	5	24" (610.00mm)	3" (76.00mm)	27" (686.00mm)	3/8" (9.50mm)	1/4" (6.50mm)	4" - 26" (102-660mm)
Short Bulb, 3/4" NPT Well	4	Not Applicable	2.07" (53.00mm)	Not Applicable	7/16" (11.10mm)	Not Applicable	Not Applicable
Short Bulb, 1/2" NPT Sliding Union	A	Not Applicable	1.18" (30.00mm)	Not Applicable	3/8" (9.50mm)	Not Applicable	Not Applicable

* Based on Range and Capillary Length (6" minimum)

DIRECT MOUNT GAS ACTUATED THERMOMETERS

Tel-Tru's Gas Actuated Thermometers are of a molecular sieve design utilizing inert gas and activated carbon to produce much lower internal pressures than conventional gas thermometers. As a result, they offer dependability, durability, high accuracy--low ambient error, and extreme over-range capabilities.



STEM LENGTH	BULB LENGTH
4.00" (101.6mm)	2.50" (63.5mm)
6.00" (152.4mm)	3.00" (76.2mm)
9.00" (228.6mm)	3.00" (76.2mm)
12.00" (304.8mm)	3.00" (76.2mm)
15.00" (381mm)	3.00" (76.2mm)

SIZE	MODEL	B	C	J	K	L
4.5"	DM4525-V7S	2.21" (56mm)	5.06" (129mm)	4.52" (115mm)	3.69" (94mm)	.375" (9.5mm)
6.0"	DM6025-S7S	2.00" (51mm)	6.31" (160mm)	5.90" (150mm)	3.49" (89mm)	.375" (9.5mm)

➤ SPECIFICATIONS:

Case Size: 4-1/2" or 6" stainless steel
Dial: Aluminum, white, with black markings
Pointer: Aluminum, black
Lens: Glass
Connection: Stainless steel 1/2" NPT SS compession fitting
Bulb: Stainless steel
Range: (*see Table 2)*
Stem: (*see Table 3)*

NOTE: Thermowells are recommended for pressure, corrosive fluid or high velocity applications.

➤ HOW TO ORDER DIRECT MOUNT THERMOMETERS:

From each table select the model and case mounting style code, temperture range, stem length and options. Order accessories separately.

EXAMPLE:
4-1/2" stainless steel case, 50/300°F, 9" stem length, plastic lens.

TABLE 1	TABLE 2	TABLE 3	TABLE 4
DM4525V7S	FL	09	D

TABLE 1 CASE SIZE

DM4525-V7S	=	4 1/2" Case
DM6025-S7S	=	6" Case

TABLE 2 RANGES
(Other Ranges Available, Consult Factory)

Fahrenheit °F			Celsius °C		
Range	°Div.	Code	Range	°Div.	Code
-320/200	5	**FA**	-200/100	5	**CA**
-120/120	2	**FB**	-80/40	1	**CB**
-40/180	2	**FG**	-40/80	1	**CG**
-20/120	1	**FH**	-30/50	1	**CH**
20/160	1	**FJ**	-10/70	1	**CJ**
0/150	1	**FC**	-10/115	1	**CD**
20/240	2	**FK**	0/120	2	**CK**
50/300	2	**FL**	10/150	1	**CL**
50/400	5	**FM**	0/200	2	**CM**
50/550	5	**FN**	0/300	5	**CN**
50/750	5	**FR**	0/400	5	**CR**
400/1200	10	***FT**	200/650	5	***CT**

DUAL TEMPERATURE RANGES

Fahrenheit °F	Celsius °C	Code
-120/120	-85/50	**DB**
-20/120	-30/49	**DH**
0/120	-18/50	**DD**
20/240	-5/110	**DK**
50/550	10/290	**DN**
400/1200	200/650	***DT**

* Minimum stem length is 9"

TABLE 3 STEM AND BULB LENGTH

Stem Length	Bulb Length	Code
4.00" (101.60mm)	2.50" (63.5mm)	**04**
6.00" (152.40mm)	3.00" (76.20mm)	**06**
9.00" (225.60mm)	3.00" (76.20mm)	**09**
12.00" (304.80mm)	3.00" (76.20mm)	**12**
15.00" (381.00mm)	3.00" (76.20mm)	**15**

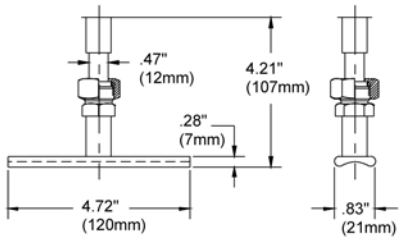
TABLE 4 OPTIONS

	Code	4-1/2"	6"
Acrylic Lens	**D**	X	X
Shatterproof Lens	**F**	X	
Red Max Hand w/Reset	**K**	X	X
Surface Bulb - Adjustable	**H**	X	X
Helical Air Bulb	**J**	X	X

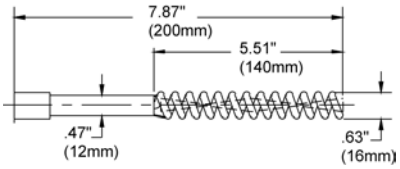
NOTE: Consult factory for other options and accessories.

Tel-Tru Manufacturing Company
408 St. Paul Street, Rochester, New York 14605 USA
Phone: 585-232-1440 • 800-232-5335 • Fax: 585-232-3857 • E-mail: info@teltru.com • Web: www.teltru.com

➤ SURFACE BULB - ADJUSTABLE TYPE



➤ HELICAL AIR BULB



ADDITIONAL PRODUCTS AVAILABLE FROM TEL-TRU

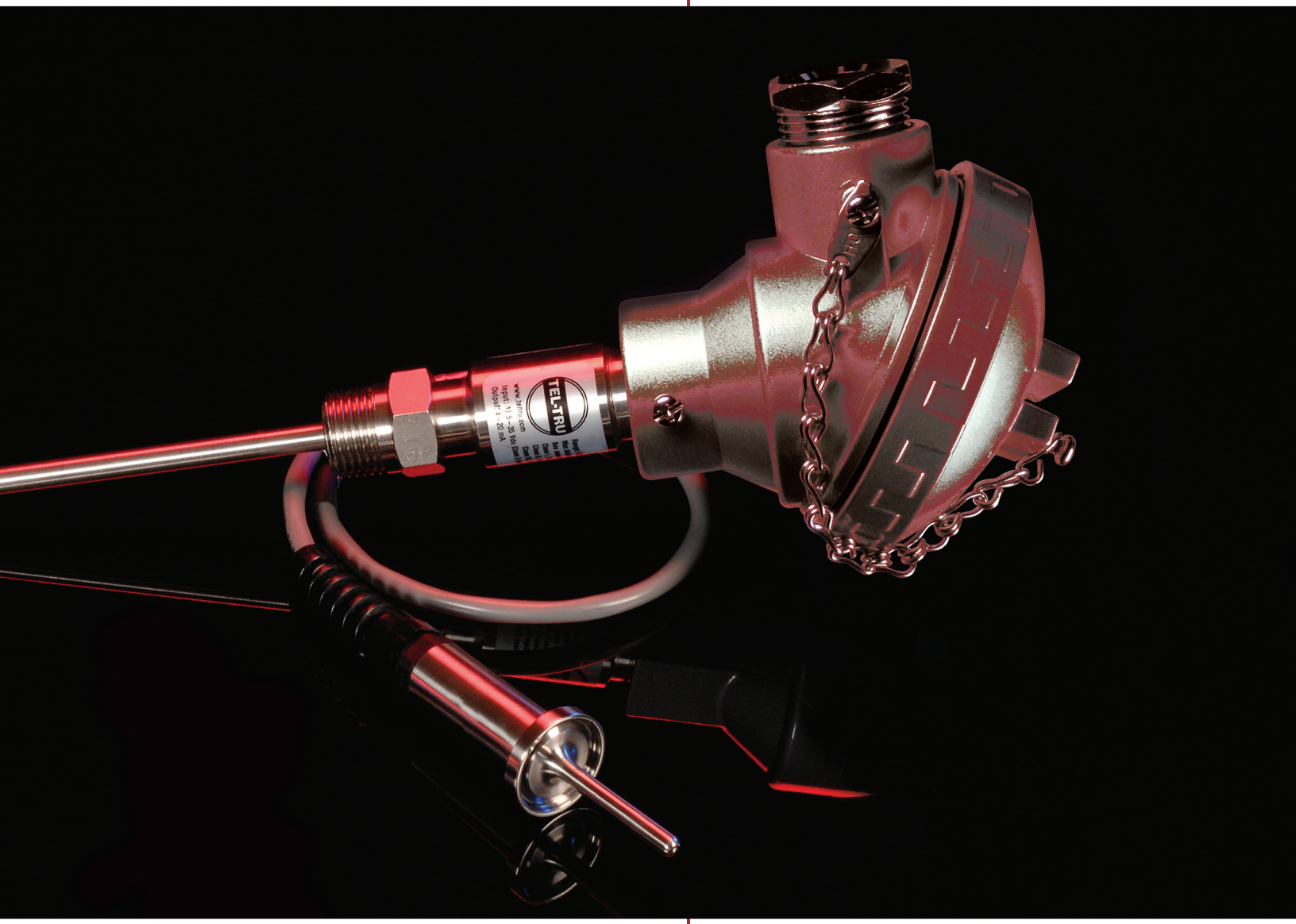
- Bimetal Thermometers
- Industrial and Sanitary RTDs
- Temperature Transmitters
- Digi-Tel™ Thermometers
- Vapor Tension Thermometers
- Thermowells
- Check-Set® Thermometer Calibrators
- Tel-Fast Infrared Thermometers
- Surface Thermometers
- Pressure Transmitters
- Pressure Gauges
- HVAC Instruments

GA613a
© 2015

TEL-TRU Manufacturing Co.

RTD TEMPERATURE PROBES

Industrial and Sanitary



www.teltru.com

Temperature + Pressure	*Since 1916*

Industrial and Sanitary RTDs

Tel-Tru RTD probe assemblies are designed for the most demanding sanitary and industrial applications.
They may be configured to meet the needs of the dairy, beverage, food, pharmaceutical, and general industrial processing markets.

Industrial RTD Series

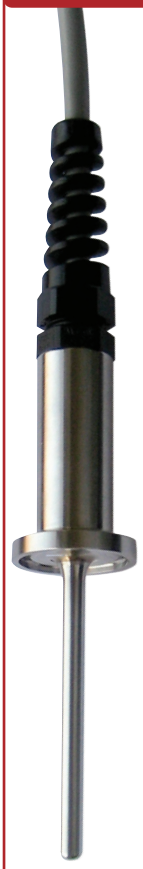
NPAA3

Industrial RTD probe assembly
with single element thin film Pt100 3-wire RTD, Accuracy Class A +/- .06% at 0°C (coefficient 0.00385)

Probe: 316SS with threaded fitting

Measurement Range: -60/500°F (-50/260°C)

Sanitary RTD Series



SPAA3

Sanitary RTD probe assembly
with single element thin film Pt100 3-wire RTD, Accuracy Class A +/- .06% at 0°C (coefficient 0.00385)

Probe: 316L SS with Tri-Clamp® CIP fitting

Measurement Range: -60/500°F (-50/260°C)

Surface finish: Wetted parts <32µin.

Sanitary Standard: Meets 3-A Sanitary Standard 74-07 requirements

Specifications

Sensor:	Thin film Pt 100 RTD, TCR .00385 Class A +/- .06% at 0°C, Conforms to IEC 751
Lead wires:	Teflon insulated, 3 lead wires
Termination:	Options available
Transmitter output:	4 to 20 mA, scaled to fixed/factory configured ranges
Probe lengths:	From 1.25" to 12"
Probe diameters:	.187" or .250"
Power Supply:	10 to 35Vdc
Transmitters:	www.teltru.com/t-rtd_trans.aspx www.teltru.com/images/catalogs/RTD/TTF.pdf

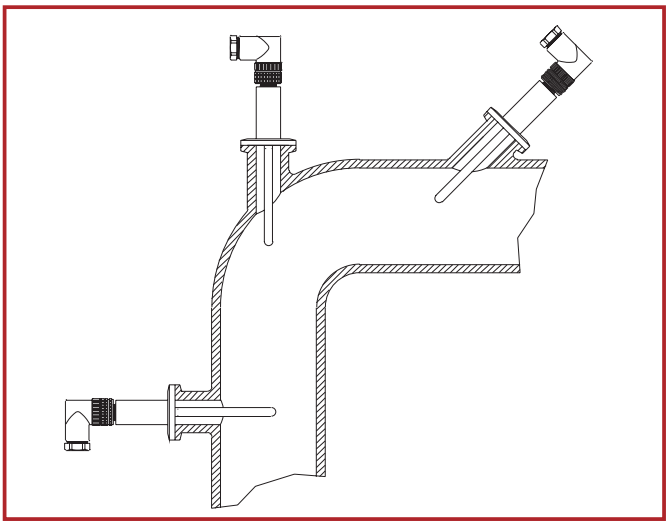
Temperature vs. Resistance Tables for PT100:
www.teltru.com/images/documents/rtdtable.pdf

Features and Options

- High accuracy, long term stability, consistent repeatability
- Fast response time
- All welded construction
- Models can be configured with connection heads and various transmitter modules
- Several connection heads available, including 316SS and White Polypropylene
- High-gloss polished finish to 2µin. available on Sanitary models

RTD Installation

Shown below are examples of mounting locations for various pipe sizes and configurations.
Minimum recommended insertion length =1"



Configuration Options

MODEL	NPAA3	SPAA3
NPAA3	X	-
SPAA3	-	X
PROBE DIAMETER		
0.187"	1	1
0.250"	2	2
PROBE LENGTH		
2-1/2"	02	02
4"	04	04
6"	06	06
9"	09	09
12"	12	12
Other as specified	XX	XX
PROCESS CONNECTION		
1/2" NPT	A1	-
1/4" NPT	A2	-
3/8" NPT	A3	-
Tri-Clamp 1/2" and 3/4"	-	05
Tri-Clamp 1" and 1-1/2"	-	10
Tri-Clamp 2"	-	20
Tri-Clamp 2-1/2"	-	25
TEMPERATURE RANGE		
See Range Chart		
TERMINATION		
1/2" NPT with 6" leads	C06	C06
M-12 conn. w/o mate	E00	E00
M-12 w/mating conn. and XX feet cable	AXX	AXX
Strain relief w/XX feet cable	BXX	BXX
Conn. Head - White Polypropylene (FDA approved) IP65	D01	D01
Conn. Head - 316 SS NEMA 4X	D02	D02
Conn. Head - Cast Aluminum IP68	D03	D03
TERM. BLOCK/TRANSMITTER		
None	00	00
Terminal block - ceramic, 3-pole w/center hole	A1	A1
Transmitter - Universal	B1	B1
Transmitter - HART®	B2	B2
Transmitter - Fixed Range TT111A	D1	D1

Range Chart

RANGES AVAILABLE WITH NO TRANSMITTERS 00, A1	
Code	**Range**
01	-60/500°F (-50/260°C)

RANGES AVAILABLE WITH B1, B2 TRANSMITTERS			
Code	**Range °F**	**Code**	**Range °C**
52	-50/120	71	-50/100
53	-40/160	72	-50/25
54	0/140	73	-50/50
55	0/180	84	-40/70
50	0/200	86	-20/120
56	0/220	74	-10/110
67	0/250	75	0/50
57	0/300	95	0/60
59	20/240	EI	0/80
60	25/125	76	0/100
61	50/250	77	0/150
62	50/300	78	0/200
58	0/500		
63	50/400		

Other ranges available, minimum span 18°F or 10°C, factory configured. For detailed specs go to: www.teltru.com/t-rtd_trans.aspx

*RANGES AVAILABLE WITH D1 TT111A TRANSMITTER	
73	-50/50 (-58/122°F)
75	0/50 (32/122°F)
76	0/100 (32/212°F)
78	0/200 (32/392°F)

**Custom ranges available, 10 piece minimum per range, factory configured. For detailed specs go to: www.teltru.com/images/catalogs/RTD/TTF.pdf*

B1

B2

D1

HART® is a registered trademark of the HART Communication Foundation

Tel-Tru Thermowells

We recommend Thermowells for pressure, corrosive fluid, and high velocity applications.

Tel-Tru Thermowells are machined from solid bar stock for standard or high velocity requirements in a large selection of materials and coatings. They are designed and manufactured to assure perfect alignment with the sensor stem.

For complete dimensions, sizes, available materials, optional features and configurations, see the Thermowell catalog at **www.teltru.com/catalogs.asp**

Technical data on pressure and temperature ratings and maximum fluid velocity can also be found at **www.teltru.com/t-ThermowellTech.aspx**

ADDITIONAL PRODUCTS AVAILABLE FROM TEL-TRU

- Bimetal Thermometers
- Temperature Transmitters
- Digi-Tel Thermometers
- Gas Actuated Thermometers
- Thermowells
- Check-Set® Thermometer Calibrators
- Infrared Thermometers
- Surface Thermometers
- Pressure Transmitters
- Pressure Gauges
- HVAC Instruments

Transmitter Specifications

Specifications for the RTD transmitters can be found online at www.teltru.com/t-rtd_trans.aspx

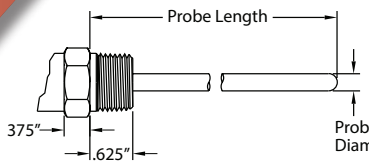
Tel-Tru Product Warranty

Please see our limited product warranty at www.teltru.com/t-warranty.aspx

Process Connection Options

Industrial

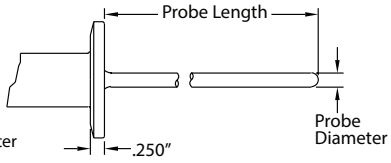
NPT Thread



Minimum probe length 1.625"
Maximum probe length 12"

Sanitary

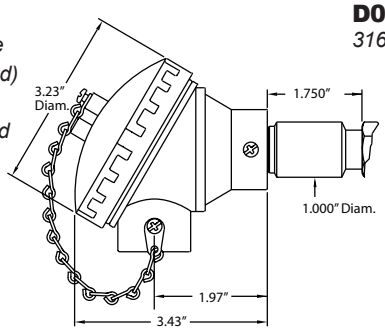
Tri-Clamp



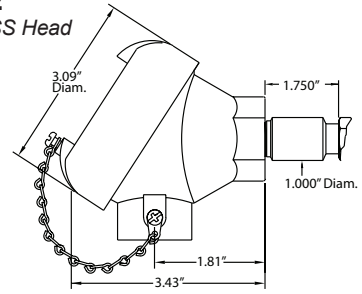
Minimum probe length 1.25"
Maximum probe length 12"

Termination Options

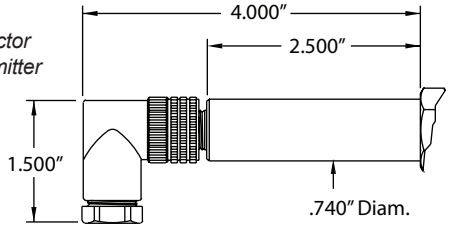
D01
White Polypropylene Head (FDA Approved)
and D03
Cast Aluminum Head



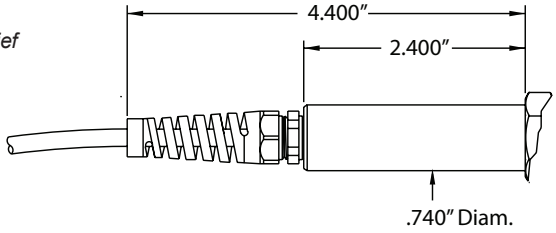
D02
316SS Head



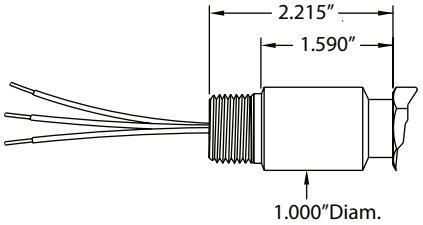
AXX
M12 w/Mating Connector and Integrated Transmitter

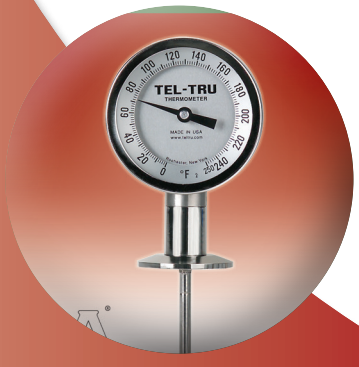


BXX
Strain Relief



C06
1/2" NPT w/Leads





3
74-07

MADE IN USA

RTD-14
© 2015

TEL-TRU®
TEL-TRU
MANUFACTURING CO.
Temperature + Pressure Instruments

TEL-TRU SPECIFICATION GUIDE

FOR SELECTION OF TEMPERATURE AND PRESSURE INSTRUMENTS

PREPARED FOR USE BY ENGINEERS AND SPECIFICATION WRITERS

Tel-Tru Manufacturing Company
408 St. Paul Street, Rochester, New York 14605 USA
Phone: 585.232.1440 • 800.232.5335 • Fax: 585.232.3857
E-mail: info@teltru.com • Web: www.teltru.com

QUALITY PRODUCTS SINCE 1916

Part Number: SG505a
Edit Date: 7/10/15

SPECIFICATION GUIDE
TEMPERATURE INSTRUMENTS

FILLED GLASS TUBE INDUSTRIAL THERMOMETERS

Die Cast Aluminum Case Series
Thermometers will be a filled glass tube adjustable angle type, 9" scale, with black enameled die cast aluminum case, heavy-duty protective glass window and brass thermowell. The fill material will be blue spirit heat transfer medium. Mercury fill shall not be used. Accuracy will be ±1 scale division. Thermometers will be TEL-TRU Series 91203, 91206 or approved equal.

Molded Cycolac Case Series
Thermometers will be a filled glass tube adjustable angle type, 9" scale, with black molded Cycolac case, heavy-duty protective glass window and brass thermowell. The fill material will be blue spirit heat transfer medium. Mercury fill shall not be used. Accuracy will be ±1 scale division. Thermometers will be TEL-TRU Series 81203, 81206 or approved equal.

Economy Thermometer Series
Thermometers will be a filled glass tube fixed straight or 90 degree back angle type, 6" scale, with V shaped gray Valox® case, heavy-duty protective glass window and brass thermowell. The fill material will be spirit. Mercury fill shall not be used. Accuracy will be ±1 scale division. Thermometers will be TEL-TRU Economy Series 83401 (straight) or 84401 (angle), or approved equal.

Add to each specification:

The proper range will be selected so that the operating temperature of the material being measured will fall approximately in the middle of the scale.

Thermometers for measuring fluid temperatures will have stems with insertion lengths of roughly half of the pipe diameter; minimum thermowell insertion length will be 2½" except on Economy Thermometers where the minimum thermowell insertion length will be 1¼". Thermometers installed on tanks will have a minimum thermowell insertion length of 4½".

Where insulation thickness exceeds 2", a longer stem thermometer will be used with an extension neck brass thermowell. The extension neck will be at least 2" long.

Thermometers for measuring air temperatures will be the same as above with the exception of having a perforated guard stem and a mounting flange instead of a brass thermowell.

BIMETALLIC DIAL THERMOMETERS

Model AA (Adjustable Angle)
Thermometers will be bimetallic dial type, 3", 4" or 5" dial size with a 304 stainless steel case and ¼" diameter stem with an adjustable angle style ½" NPT connection. Case to have a glass lens and be hermetically sealed; dial to be true anti-parallax design with pointer and scale in the same plane; bimetallic helical coil and stem wire to be centered in stem by a bushing and be silicone dampened. Instrument to have external recalibration by use of an Allen screw. Accuracy will be ±1.0% full span, ASME B40.3 Grade A. Thermometers will be TEL-TRU Model AA or approved equal.

Model GT or BC (Fixed back or bottom stem)
Thermometers will be bimetallic dial type, 3", 4" or 5" dial size with a 304 stainless steel case and ¼" diameter stem with a fixed back or bottom ½" NPT connection. Case to have a glass lens and be hermetically sealed; dial to be true anti-parallax design with pointer and scale in the same plane; bimetallic helical coil and stem wire to be centered in stem by a bushing and be silicone dampened. Instrument to have external recalibration by use of an Allen screw. Accuracy will be ±1.0% full span, ASME B40.3 Grade A. Thermometers will be TEL-TRU Model GT or BC or approved equal.

Model LN-250R (Fixed back stem)
Thermometers will be bimetallic dial type, 2" dial size with a 304 stainless steel case and ¼" diameter stem with a fixed back ¼" NPT connection. Case to have a glass lens and be hermetically sealed; bimetallic helical coil and stem wire to be centered in stem by a bushing and be silicone dampened. Instrument to have external recalibration by use of an Allen screw. Accuracy will be ±1.0% full span, ASME B40.3 Grade A. Thermometers will be TEL-TRU Model LN-250R or approved equal.

Add to each specification:

The proper range will be selected so that the operating temperature of the material being measured will fall approximately in the middle of the scale.

Thermometers for pipe or tank mounting will have a brass or stainless steel thermowell.

Thermometers for measuring fluid temperatures will have stems with thermowell insertion lengths of roughly half of the pipe diameter; minimum thermowell insertion length will be 2½". Thermometers installed on tanks will have a minimum thermowell insertion length of 4½".

Where insulation thickness exceeds 2", a longer stem will be used with an extension neck thermowell. The extension neck will be at least 2" long.

Thermometers for measuring air temperatures will have a duct flange connection instead of a thermowell.

GAS OR VAPOR ACTUATED DIAL THERMOMETERS

Model DM Gas Actuated (Directly mounted 4½" or 6” dial size)
Thermometers will be of the inert gas actuated, adjustable angle, direct mounted type, 4½" or 6” dial size with a 304 stainless steel case, bayonet lock ring and a glass lens. Dial face to have a linear scale and be white with black figures; pointer to be slotted type for field adjustment. Thermometers to have a 316 stainless steel bulb and stem with a ½" NPT connector to fit into a union adapter bushing or thermowell. Thermometers will be TEL-TRU Model DM4525 or DM6025 or approved equal.

Model RT Gas Actuated (Remotely mounted 2½", 3½", 4½" or 6" dial size)
Thermometers will be of the inert gas actuated, remote dial type, 2½", 3½", 4½" or 6" dial size with a 304 stainless steel case, bayonet lock ring and a glass lens. Dial face to have a linear scale and be white with black figures; pointer to be slotted type for field adjustment. Thermometer to have either a 316 stainless steel plain bulb or a bulb with an extension and a ½" NPT sliding connector to fit into a union adapter bushing or thermowell and have armored flexible capillary tubing. The case will be surface mounted or flush mounted so that the thermometer may be easily read at eye level. Thermometers will be TEL-TRU Model RT or approved equal.

Model V Vapor Actuated (Remotely mounted 3½" or 4½" dial size)
Thermometers will be of the vapor dial type, 3½" or 4½”dial size with a 304 stainless steel case and a polycarbonate lens. Dial face to be white with black figures; pointer to be slotted type for field adjustment. Thermometer to have a copper bulb with copper braided flexible capillary tubing or a 316 stainless steel bulb with stainless steel armored capillary tubing. The bulb to be plain or have a jam nut and a union adapter bushing or thermowell. The case will be surface mounted, flush mounted or have an adjustable angle mounting bracket so that the thermometer may be easily read at eye level. Thermometers will be TEL-TRU Model V35 or V45 or approved equal.

Add to each specification:

The proper range will be selected so that the operating temperature of the material being measured will fall approximately in the middle of the scale, or in the case of vapor dial thermometers in the manufacturer’s recommended working zone.

Thermometers for pipe or tank wall mounting will have a brass or stainless steel thermowell.

Gas or vapor actuated thermometers for measuring fluid temperatures will have their sensing bulb positioned in the pipe, duct or tank to obtain a meaningful temperature reading.

SPECIFICATION GUIDE
PRESSURE INSTRUMENTS

HIGH QUALITY - HIGH ACCURACY - PROCESS AND INDUSTRIAL APPLICATIONS

Model 10 Solid Front Case Process Gauge

Pressure gauges will be 4½" dial size with a fiberglass reinforced polypropylene case, solid front, blowout back, threaded ring and a laminated safety glass lens. The case will be hermetically sealed with a temperature/pressure compensating diaphragm and be liquid fillable in the field through a top port. Bourdon tube and socket will be 316 stainless steel. Movement will be 300 series stainless steel rotary-geared type with over-pressure and under-pressure stops. Dial face will be white with black figures; pointer will be micrometer adjustable type. Accuracy will be ±0.5% of scale range, ANSI B40.1 Grade 2A. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 10 or approved equal.

HIGH QUALITY - GOOD ACCURACY - PROCESS AND INDUSTRIAL APPLICATIONS

Model 31 Solid Front Case Gauge

Pressure gauges will be 4" dial size with a stainless steel case, solid front, blowout back, stainless steel bayonet lock ring and a laminated safety glass lens. Bourdon tube and socket will be 316 stainless steel. Movement will be stainless steel with over-pressure and under-pressure stops. Dial face will be white with black figures; pointer will be micrometer adjustable type. Accuracy will be ±1.0% of scale range, ANSI B40.1 Grade 1A. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 31 or approved equal.

Model 30 Industrial Gauge

Pressure gauges will be 2½", 4" or 6" dial size with a stainless steel case, stainless steel bayonet lock ring and a laminated safety glass lens. Bourdon tube and socket will be 316 stainless steel. Movement will be stainless steel with over-pressure and under-pressure stops. Dial face will be white with black figures; pointer will be micrometer adjustable type. Accuracy will be ±1.0% of scale range, ANSI B40.1 Grade 1A. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 30 or approved equal.

Model 32S Industrial Gauge

Pressure gauges will be 2½" dial size with a stainless steel case and crimped ring and an acrylic lens. Bourdon tube and socket will be 316 stainless steel. Movement will be stainless steel. Dial face will be white with black figures; pointer will be black painted aluminum. Accuracy will be ±1.5% of scale range, ANSI B40.1 Grade A. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 32 or approved equal.

Model 37 Industrial Low Pressure Gauge
Pressure gauges will be 4” dial size with a stainless steel or painted steel case, stainless steel bayonet lock ring and a laminated safety glass lens. Capsule diaphragm and socket will be 316 stainless steel or bronze/brass. Movement will be brass. Dial face will be white with black figures; pointer will be black painted aluminum. Accuracy will be ±1.5% of scale range, ANSI B40.1 Grade A. Pressure gauges will be TEL-TRU Model 37S or Model 37B or approved equal.

COMMERCIAL DESIGN QUALITY - GOOD ACCURACY - CONTRACTOR TYPE APPLICATIONS

Model 52B Mechanical Contractor Gauge
Pressure gauges will be 4½" dial size with a stainless steel case, stainless steel friction ring and an acrylic lens. Bourdon Tube and socket will be brass. Movement will be brass. Dial face will be white with black figures; pointer will have an adjustment screw. Accuracy will be ±1.0% of scale range, ANSI B40.1 Grade 1A. Pressure gauges will be TEL-TRU Model 52B or approved equal.

COMMERCIAL DESIGN QUALITY - COMMERCIAL ACCURACY

Model 33B Brass Internals Industrial Gauge
Pressure gauges will be 1½", 2", 2½" or 4" dial size with a stainless steel case and ring and an acrylic lens. Bourdon tube and socket will be brass with a restrictor. Movement will be brass. Dial face will be white with black figures; pointer will be black painted aluminum. Accuracy will be ±3-2-3% of scale range, ANSI B40.1 Grade B. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 33B or approved equal.

Model 33S Stainless Steel Internals Industrial Gauge
Pressure gauges will be 1½", 2", 2½" or 4" dial size with a stainless steel case and ring and an acrylic lens. Bourdon tube and socket will be brass with a restrictor. Movement will be stainless steel. Dial face will be white with black figures; pointer will be black painted aluminum. Accuracy will be ±3-2-3% of scale range (4" dial size will be 1.5%), ANSI B40.1 Grade B. Gauges in severe service may be liquid filled with glycerine or silicone. Pressure gauges will be TEL-TRU Model 33S or approved equal.

UTILITY DESIGN QUALITY - COMMERCIAL ACCURACY

Model 50B Brass Internals, Steel Case Utility Gauge
Pressure gauges will be 1½", 2", 2½" or 3½" dial size with a black painted steel case, a chrome plated friction ring and an acrylic lens. Bourdon tube and socket will be brass. Movement will be brass. Dial face will be white with black figures; pointer will be black

painted aluminum. Accuracy will be ±3-2-3% of scale range, ANSI B40.1 Grade B. Pressure gauges will be TEL-TRU Model 50B or approved equal.

Model 55B Brass Internals Low Pressure Gauge
Pressure gauges will be 2½" dial size with a steel case and an acrylic lens. Capsule diaphragm will be phosphor bronze and socket will be brass. Movement will be brass. Dial face will be white with black figures; pointer will be black painted aluminum. Accuracy will be ±3-2-3% of scale range, ANSI B40.1 Grade B. Pressure gauges will be TEL-TRU Model 55B or approved equal.

Add to each specification:

The proper range will be selected so that the average operating pressure falls approximately in the middle of the scale selected.

All pressure gauges will be furnished with TEL-TRU brass or stainless steel needle valves.

Gauges on steam service will be furnished with TEL-TRU Model 21AS steel coil siphons.

Gauges on any service where pressure surges or pulsations are possible will be furnished with Ray™ Model 722 or 723 pressure snubbers.

DIAPHRAGM PROTECTION SEALS - TO PROTECT PRESSURE OR VACUUM SENSING DEVICES

Model W Welded Diaphragm Seals

Diaphragm protection seals will be continuous operation types for safety. All seals will be a two-piece bolted design with the diaphragm welded to the upper housing to provide a high integrity seal. The upper housing may be removed to facilitate cleaning without loss of the fill fluid. When required by the service the lower housing will have a ¼" NPT flushing connection. The process flange and diaphragm material will be compatible with the process fluid. Diaphragm protection seals will be TEL-TRU Model W or approved equal.

Model M Mini Diaphragm Seals

Diaphragm protection seals will be of welded construction with ¼" or ½" NPT upper and lower connections. When required by the service the lower housing will have a ¼" NPT flushing connection. The process housing and diaphragm material will be compatible with the process fluid. The Mini diaphragm seal will be used only for pressure instruments of a 3½" dial size or smaller and a pressure range of 0 to 100 psi or greater. Mini diaphragm protection seals will be TEL-TRU Model M or approved equal.

Model S Sanitary Diaphragm Seals

Diaphragm protection seals will have the diaphragm welded to the seal housing to provide sanitary type construction and have a ¼" or ½" NPT upper connection. The seal will be manufactured to meet design, material and fabrication requirements of 3-A Sanitary Standard 74-06. The seal housing will be designed to be clamped onto a sanitary piping system and may be removed without loss of fill fluid. Sanitary diaphragm protection seals will be TEL-TRU Model S or approved equal.