



**TEL-TRU<sup>®</sup> MANUFACTURING COMPANY**

# **INDUSTRIAL AND SANITARY RTDs**

*Probe Assemblies • Transmitters*



**w w w . t e l t r u . c o m**

*World-Class Instruments* Since 1916



## Specifications

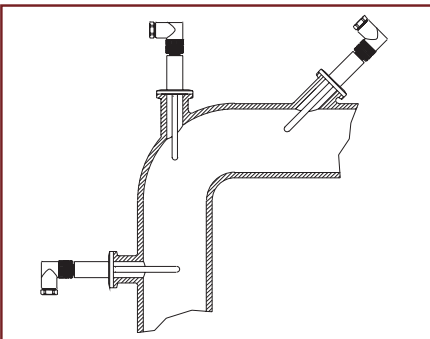
Sensor:	Thin film Pt 100 RTD, TCR .00385 Class A +/- .06% at 0°C, Conforms to IEC 751
Lead wires:	Teflon insulated, 3 lead wires
Termination:	Options available
Transmitter output:	4 to 20 mA, scaled to fixed/factory configured ranges
Probe lengths:	From 1.25" to 12"
Probe diameters:	.187" or .250"
Power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

## 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"*



## How to Order

### Standard and Intrinsically Safe

**Ordering Example:** Model ISPAA3, .187" probe diameter, 4" probe length, 2-1/2" Tri-Clamp connection, 0/220°F temp. range, 316SS conn. head, Intrinsically Safe Universal transmitter.

			<b>A</b>				<b>B</b>	<b>C</b>				<b>D</b>				<b>E</b>				<b>F</b>				<b>G</b>
I	S	P	A	A	3	1	0	4	2	5	5	6	-	D	0	2	C	1						

## Range Chart

### Code Range

**Ranges avail. with no transmitter**  
01 -60/500°F (-50/260°C)

**Ranges avail. with B1, B2, C1 programmable transmitters -**  
*Other ranges available, minimum span 18°F or 10°C*  
*Factory Configured*

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		

**Ranges avail. with Code D1 TT111A transmitter -**  
*Custom ranges available, 10 piece minimum per range*  
*Factory Configured*

Code	Range °C
73	-50/50 (-58/122°F)
75	0/50 (32/122°F)
76	0/100 (32/212°F)
78	0/200 (32/392°F)



## 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](http://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](http://www.teltru.com/t-ThermowellTech.aspx)

# Industrial and Sanitary RTDs

Tel-Tru®, your source for high quality, precision temperature and pressure monitoring instruments, offers RTD probe assemblies, including hazardous environment approved models. They are designed with the most demanding sanitary and industrial applications in mind. In addition, they are configurable with many options to meet the needs of the dairy, beverage, food, pharmaceutical, and chemical processing markets.

Industrial RTD Series		Sanitary RTD Series	
 <p><b>NPAA3</b></p>	 <p><b>INPAA3</b> <i>Intrinsically Safe*</i></p>	 <p><b>SPAA3</b></p>	 <p><b>ISPAA3</b> <i>Intrinsically Safe*</i></p>
<p><b>Industrial RTD probe assembly</b> with single element thin film Pt100 3-wire RTD, Accuracy Class A +/- .06% at 0°C (coefficient 0.00385) <b>Probe:</b> 316SS with threaded fitting <b>Measurement Range:</b> -60/500°F (-50/260°C) <b>Transmitters Available</b> <b>4 to 20 mA Loop Powered Output</b></p>		<p><b>Sanitary RTD probe assembly</b> with single element thin film Pt100 3-wire RTD, Accuracy Class A +/- .06% at 0°C (coefficient 0.00385) <b>Probe:</b> 316L SS with Tri-Clamp® CIP fitting <b>Measurement Range:</b> -60/500°F (-50/260°C) <b>Surface finish:</b> Wetted parts &lt;16µin. <b>Transmitters Available</b> <b>4 to 20 mA Loop Powered Output</b></p>	

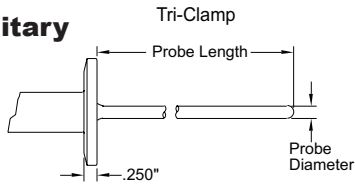
A	MODEL	CODE	MODEL	CODE	MODEL	CODE	MODEL	CODE
	NPAA3	NPAA3	INPAA3	INPAA3	SPAA3	SPAA3	ISPAA3	ISPAA3
B	<b>PROBE DIAMETER</b>		<b>PROBE DIAMETER</b>		<b>PROBE DIAMETER</b>		<b>PROBE DIAMETER</b>	
	0.187"	1	0.187"	1	0.187"	1	0.187"	1
	0.250"	2	0.250"	2	0.250"	2	0.250"	2
C	<b>PROBE LENGTH</b>		<b>PROBE LENGTH</b>		<b>PROBE LENGTH</b>		<b>PROBE LENGTH</b>	
	2-1/2"	02	2-1/2"	02	2-1/2"	02	2-1/2"	02
	4"	04	4"	04	4"	04	4"	04
	6"	06	6"	06	6"	06	6"	06
	9"	09	9"	09	9"	09	9"	09
	12"	12	12"	12	12"	12	12"	12
	Other as specified	XX	Other as specified	XX	Other as specified	XX	Other as specified	XX
D	<b>PROCESS CONNECTION</b>		<b>PROCESS CONNECTION</b>		<b>PROCESS CONNECTION</b>		<b>PROCESS CONNECTION</b>	
	1/2" NPT	A1	1/2" NPT	A1	Tri-Clamp 1/2" and 3/4"	5	Tri-Clamp 1/2" and 3/4"	5
	1/4" NPT	A2	1/4" NPT	A2	Tri-Clamp 1" and 1-1/2"	10	Tri-Clamp 1" and 1-1/2"	10
	3/8" NPT	A3	3/8" NPT	A3	Tri-Clamp 2"	20	Tri-Clamp 2"	20
					Tri-Clamp 2-1/2"	25	Tri-Clamp 2-1/2"	25
E	<b>TEMPERATURE RANGE</b>		<b>TEMPERATURE RANGE</b>		<b>TEMPERATURE RANGE</b>		<b>TEMPERATURE RANGE</b>	
	See Range Chart		See Range Chart		See Range Chart		See Range Chart	
F	<b>TERMINATION</b>		<b>TERMINATION</b>		<b>TERMINATION</b>		<b>TERMINATION</b>	
	1/2" NPT with 6" leads	C06	Conn. Head - White	D01	1/2" NPT with 6" leads	C06	Conn. Head - White	D01
	M-12 conn. w/o mate	E00	Polypropylene (FDA approved)		M-12 conn. w/o mate	E00	Polypropylene (FDA approved)	
	M-12 w/mating conn. and XX feet cable	AXX	Conn. Head - 316 SS	D02	M-12 w/mating conn. and XX feet cable	AXX	Conn. Head - 316 SS	D02
	Strain relief w/XX feet cable	BXX	Conn. Head - Cast Aluminum	D03	Strain relief w/XX feet cable	BXX	Conn. Head - Cast Aluminum	D03
	Conn. Head - White	D01			Conn. Head - White	D01		
	Polypropylene (FDA approved)				Polypropylene (FDA approved)			
	Conn. Head - 316 SS	D02			Conn. Head - 316 SS	D02		
	Conn. Head - Cast Aluminum	D03			Conn. Head - Cast Aluminum	D03		
G	<b>TERM. BLOCK/TRANSMITTER</b>		<b>TRANSMITTER</b>		<b>TERM. BLOCK/TRANSMITTER</b>		<b>TRANSMITTER</b>	
	None	00	Intr. Safe Trans., Univ.	C1	None	00	Intr. Safe Trans., Univ.	C1
	Terminal block - ceramic, 3-pole w/center hole	A1			Terminal block - ceramic, 3-pole w/center hole	A1		
	Transmitter - Universal	B1			Transmitter - Universal	B1		
	Transmitter - HART®	B2			Transmitter - HART®	B2		
	Transmitter - Fixed Range TT111A	D1			Transmitter - Fixed Range TT111A	D1		

\* **Intrinsically Safe models are cCSAus approved** for use in Class I, Div. 1, Groups A,B,C,D when used with approved zener barrier systems, per applicable control drawing. Specifications subject to change without notice. HART® is a registered trademark of the HART Communication Foundation

# TEL-TRU® Industrial and Sanitary RTDs

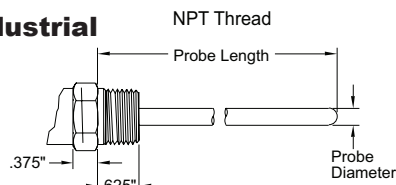
## Process Connection Options

### Sanitary



Minimum probe length 1.25"  
Maximum probe length 12"

### Industrial

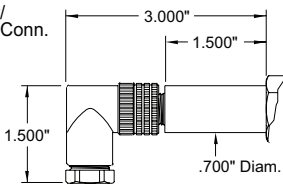


Minimum probe length 1.625"  
Maximum probe length 12"

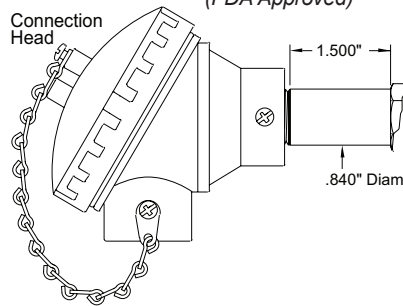
## Termination Options

### AXX

M-12 w/  
Mating Conn.

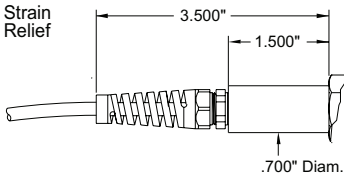


### D01, D02, D03 White Polypropylene (FDA Approved)



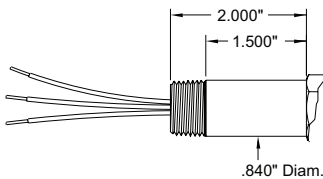
### BXX

Strain  
Relief



### C06

1/2" NPT w/Leads



## Transmitter Specifications

Specifications for the RTD transmitters can be found online at [www.teltru.com/t-rtd\\_trans.aspx](http://www.teltru.com/t-rtd_trans.aspx)

## Tel-Tru Product Warranty

Please see our limited product warranty at [www.teltru.com/t-warranty.aspx](http://www.teltru.com/t-warranty.aspx).

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

## Additional Products available from Tel-Tru®



Bimetal Thermometers

Sanitary Bimetal Thermometers

Check-Set™ Thermometer Calibrators

Sanitary and Industrial RTDs with  
Compact Transmitters

Glow Dial Thermometers

Digi-Tel Thermometers

Thermowells

HVAC Instruments

Gas Actuated Thermometers

Vapor Tension Thermometers

Non-Contact Thermometers

Surface Thermometers

Pressure Transmitters

Pressure Gauges

Sanitary Pressure Gauges

Solar Digital Pressure Gauges



**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](mailto:info@teltru.com) • Web: [www.teltru.com](http://www.teltru.com)

RTD-12  
© 2012