

# Electronic Temperature Sensor

Connection Head Type • RTD or Thermocouple Element

ELECTRONIC TEMPERATURE SENSORS



- ▶ Thermocouple or RTD
- ▶ Cast Aluminum, Polypropylene or Stainless Steel Head
- ▶ Weather Proof
- ▶ Welded or Spring Loaded Stem

## Specifications

Models	Sensor Type
TJD	Type J T/C
TKD	Type K T/C
TDD	100Ω RTD
TMD	1000Ω RTD
<b>Hot Junction:</b>	T/C: Ungrounded RTD: Platinum, 3-wire
<b>Stem</b>	316 stainless steel 1/4" diameter
<b>Insulation</b>	Ceramic
<b>Head</b>	Cast aluminum, polypropylene or stainless steel
<b>Process Connection</b>	1/2 NPT welded or spring loaded
<b>Conduit Connection</b>	3/4 NPT female

### Approximate Shipping Weight

1.1 lbs [0.50 kg]

*TJDZ04UWA shown*

The Trerice **Connection Head** is available with both Type J and Type K Thermocouples, as well as RTD sensors. The weatherproofed head provides a conduit connection and is available in cast aluminum (screw cover), polypropylene (flip cover) and stainless steel (screw cover). The stem is either welded directly to the 1/2 NPT threaded connection, or is spring loaded to provide maximum sensitivity. The spring loaded stem must always be installed in a thermowell.

- Extension wire and transmitter accessories are also available. Please consult the Temperature Sensor Accessories Section for details.
- For applications where the process media may be corrosive or contained under pressure, the use of a thermowell is required to prevent damage to the sensor and facilitate its removal from the process. To prevent leakage of the process media, spring loaded sensors must always be installed in a thermowell. (Refer to pages 155-161)

## HOW TO ORDER

Sample Order Number: **TJD Z 04 U W A**

Model	Stem Style	Stem Length	Hot Junction	Connection	Head Material
TJD Type J T/C	Z 316SS, 1/4 O.D.	02 2 1/2" Stem	U Ungrounded (T/C)	S Spring Loaded, 1/2 NPT W Welded, 1/2 NPT	A Aluminum P Polypropylene S Stainless Steel
TKD Type K T/C		04 4" Stem			
TDD 100Ω RTD		06 6" Stem			
TMD 1000Ω RTD		09 9" Stem			
		12 12" Stem			

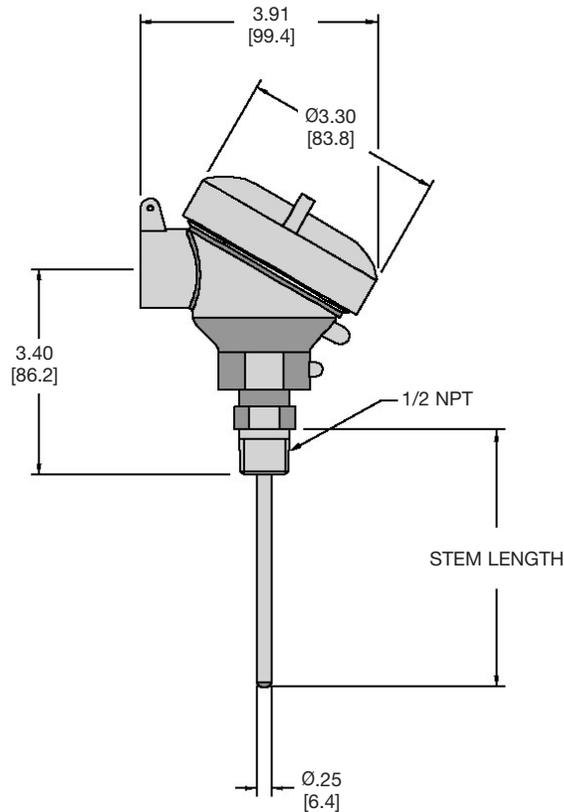
Other stem lengths available: Specify in inches (24" maximum).

# Electronic Temperature Sensor

Connection Head Type

All dimensions are nominal.  
Dimensions in [ ] are in millimeters.

ELECTRONIC TEMPERATURE SENSORS



## Sensor Specifications

### Thermocouple

Type	Color Code	Positive Lead	Negative Lead	Temperature Range
J	Black	Iron* (Fe) [white]	Constantan (Cu-Ni) [red]	32° to 1382°F (0° to 750°C)
K	Yellow	Nickel-Chromium (Ni-Cr) [yellow]	Nickel-Aluminum* (Ni-Al) [red]	32° to 2282°F (0° to 1250°C)

\*magnetic lead

### RTD

Type	Material	Resistance	Temperature Coefficient	Temperature Range
D	Platinum (Pt)	100Ω	$\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$	-50° to 700°F (-45° to 370°C)
M	Platinum (Pt)	1000Ω	$\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$	-50° to 700°F (-45° to 370°C)

# Electronic Temperature Sensor

Integral Leadwire • RTD or Thermocouple Element

ELECTRONIC TEMPERATURE SENSORS



- ▶ Thermocouple or RTD
- ▶ Self-Contained Design
- ▶ Plain or Teflon Covered Stem

TJDZ06UR120 shown

Trerice **Integral Leadwire Sensors** are available with an RTD, or a Type J or K Thermocouple. The stem transition includes a spring relief to prevent damage to the leadwire. A Teflon covered sensor and leadwire is offered for use with open tanks or corrosive process media (the Teflon covered sensor does not include a spring relief).

For applications where the process media may be corrosive or contained under pressure, the use of a thermowell is required to prevent damage to the sensor and facilitate its removal from the process. (Refer to pages 155-161)

## Specifications

Models	Sensor Type
TJD	Type J T/C
TKD	Type K T/C
TDD	100Ω RTD
TMD	1000Ω RTD

**Hot Junction:** T/C: Ungrounded  
RTD: Platinum, 3-wire

**Stem** 316 stainless steel  
1/4" diameter

**Insulation** Ceramic

**Termination** Integral leadwire with spring relief or Teflon sheath  
(450°F / 230°C maximum)

**Leadwire Jacketing** T/C: Fiberglass  
RTD: Teflon

### Approximate Shipping Weight

0.5 lbs [0.23 kg]

## HOW TO ORDER

Sample Order Number: **TDD Z 06 D T 024**

Model	Stem Style	Stem Length	Hot Junction	Connection Style	Leadwire Length
TJD Type J T/C TKD Type K T/C TDD 100Ω RTD TMD 1000Ω RTD	Z 316SS, 1/4 O.D.	02 2 1/2" Stem 04 4" Stem 06 6" Stem 09 9" Stem 12 12" Stem	U Ungrounded (T/C) D 3 Wire (RTD)	R Integral Leadwire with Relief Spring T Integral Leadwire with Teflon Sheath	Specify Length in inches (i.e., 10 feet=120)

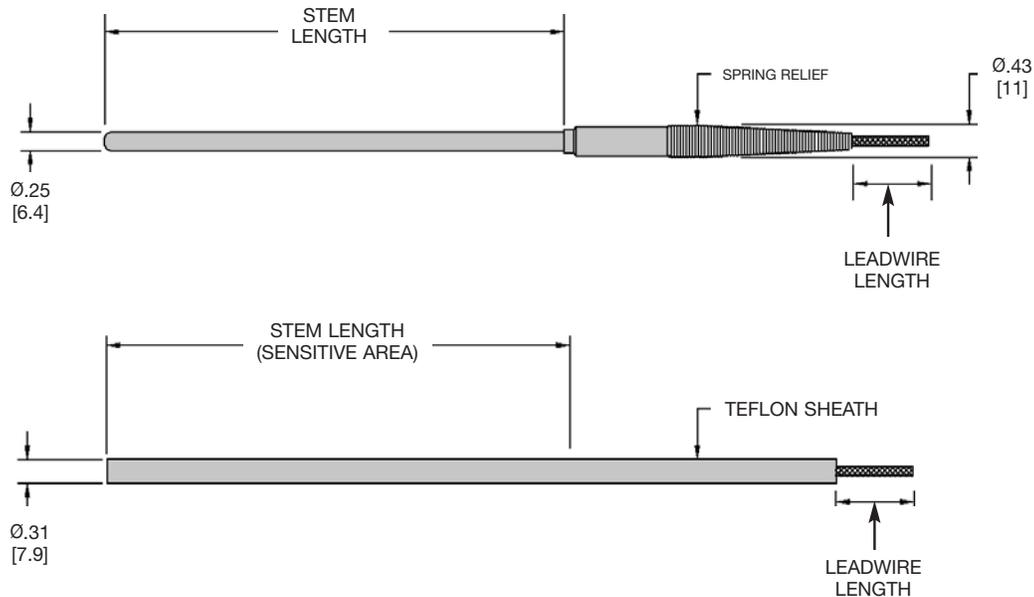
Other stem lengths available: Specify in inches (24" maximum).

# Electronic Temperature Sensor

Integral Leadwire

All dimensions are nominal.  
Dimensions in [ ] are in millimeters.

ELECTRONIC TEMPERATURE SENSORS



## Sensor Specifications

### Thermocouple

Type	Color Code	Positive Lead	Negative Lead	Temperature Range
J	Black	Iron* (Fe) [white]	Constantan (Cu-Ni) [red]	32° to 1382°F (0° to 750°C)
K	Yellow	Nickel-Chromium (Ni-Cr) [yellow]	Nickel-Aluminum* (Ni-Al) [red]	32° to 2282°F (0° to 1250°C)

\* Magnetic lead

### RTD

Type	Material	Resistance	Temperature Coefficient	Temperature Range
D	Platinum (Pt)	100Ω	$\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$	-50° to 700°F (-45° to 370°C)
M	Platinum (Pt)	1000Ω	$\alpha = 0.00385 \Omega/\Omega/^\circ\text{C}$	-50° to 700°F (-45° to 370°C)

Note: Teflon covered sensors are limited to 450°F (232°C).

# Digital Temperature Indicator TRD20

Microprocessor Based

ELECTRONIC TEMPERATURE SENSORS

- ▶ 96 mm x 48 mm (1/8 DIN)
- ▶ RTD, Thermocouple, Current & Voltage Inputs Available
- ▶ Analog Output or Interface Available
- ▶ Optional Alarm



DISCONTINUED

The Trerice **TRD20 Digital Indicator** is a superb choice when remote digital indication is required. The 4 times per second sampling cycle provides accurate, reliable monitoring and the large LED display provides easy readability from a distance. The TRD20 can be used with any Trerice RTD, Thermocouple or Transmitter and can be ordered with an RS-485, RS-422A or RS-232C Communications Interface. Size is 96 mm x 48 mm (1/8 DIN).

## Specifications

### Model

**TRD20**

**Display** 4 digit, 14.3 mm red LED  
Sampling Cycle: 4x/second

**Input** Thermocouple: Type J, Type K  
RTD: Platinum, 100Ω, 3-wire  
Current: 4-20 mA, 0-20 mA switchable  
Voltage: 0-10 mVDC, 0-50 mVDC, 0-100 mVDC switchable;  
0-5VDC, 0-5VDC, 0-10VDC switchable

### Power Requirements

Supply Voltage:  
100-240 VAC/50/60 Hz,  
24 VAC/50/60 Hz, 24 VDC

Consumption:  
100-240 VAC: Approximately 6-8 VA  
24 VAC: Approximately 8 VA  
24 VDC: Approximately 8 W

### A/D Conversion

Microprocessor

**Accuracy** ±0.25% + 1 digit of  
measuring range

### Ambient Temperature

Maximum: 122°F (50°C)  
Minimum: 14°F (-10°C)

**Humidity** Maximum: 90% RH

### Approximate Shipping Weight

0.7 lbs [0.31 kg]

## HOW TO ORDER

Sample Order Number: **TRD20 2 90 00 04 00**

Model	Input	Power Supply	Alarms	Analog Output/Interface	Sensor DC Power Supply*
TRD20	1 Thermocouple	90 100-240 VAC 50/60 Hz	00 None	00 None	00 None
	2 RTD	10 24 VAC 50/60 Hz	10 2 point individual setting	03 0 to 10 mVDC	24 24 VDC 50 mA
	3 mVDC	02 24 VDC		04 4 to 20 mA	
	4 mA			06 0 to 10 VDC	
	5 VDC			15 RS-485	
				16 RS-422A	
				17 RS-232C	

\*N/A with 24 VAC or 24 VDC power supply