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# Series T28XX

## Temperature Sensors



### Description

The T28XX series is a temperature sensor for measuring dynamic and static temperatures under pressure. The unit is entirely welded and utilizes stainless steel and heavy wall tubing to reduce the need for thermowells, thus, minimizing costs and improving space efficiency.

The unit provides many features as standard and allows for a wide variety of high level outputs along with many other electrical and mechanical modifications. As with all of STI's products, "state-of-the-art" electronics are coupled with rugged and durable RTD elements.

The unit provides a versatile, easy to use, economical solution and compliments the "Application-Solutions" demanded by today's marketplace.

Areas of applications where we can assist include:

- Submersible Applications
- Oilfield Drilling/Production Applications
- Hazardous Areas
- OEM Customization
- Plant Automation

### Standard Features

- **Stainless Steel Construction**
- **NIST Traceable Calibration**
- **Wide Variety of Analog and Digital Outputs**
- **Hermetically Sealed**
- **Probe Length to 6 inches**

### Optional Features

- **Remote Operation**
- **Submersible Operation**
- **Special Ranges**
- **Low Current Draw Electronics**
- **Area Certifications for I.S. and Flameproof Environments**

# T28XX

**Your Application-Solution Source<sup>SM</sup>**

# Series T28XX Specifications

Baseline Configuration Specs Represented.  
Modifications Encouraged - See Below  
Custom Designs Available

## Performance

### Temperature Accuracy

± 1.2°F or 1% whichever is greater.  
± 0.5°F. or 0.5% whichever is greater, optional.

### Frequency Response

Thin wall probe: 1 sec. in liquid (63%).  
Standard probe: 3 sec. in liquid (63%).

### Insulation Resistance

> 100 megohms at 50 Vdc at 70°F.

## Mechanical Characteristics

### Working Pressure

10,000 PSI maximum.

### Operating Media

Fluids and gases compatible with stainless steel. Inconel and other materials optional.

### Pressure Fitting

1/4" NPT male (standard).  
7/16"-20 per MS33656-4 male (optional).  
Metric threads (optional).

### Enclosure

Body and pressure cavity of stainless steel, hermetically sealed.

### RTD

Specify probe length desired:  
Dimension "L" (see drawing).

### Weight

8 oz. maximum.

## Electrical Characteristics

### ANALOG OUTPUTS

#### Excitation

4-20mA Current Loop:  
9-36 Vdc for 2-wire.  
9-36 Vdc for 3-wire.  
Isolated Voltage Output (0-5 Vdc, 0-10 Vdc):  
14-32 Vdc (standard).  
8-18 Vdc (No charge option).  
Non-Isolated Voltage Output:  
8-40 Vdc for 1-5 Vdc, 3-wire (standard).  
8-40 Vdc for 1-6 Vdc, 3-wire (No charge option).  
8-40 Vdc for 0-5 Vdc, 4-wire (No charge option).

*Additional outputs and related excitations available.*

### DIGITAL OUTPUTS

#### Excitation

RS-232, RS-485  
8-30 Vdc.  
CANbus  
4-18 Vdc (standard).  
14-32 Vdc (optional).

### Programming

PC.

### DUAL OUTPUTS (Analog & Digital)

#### Excitation

3-wire Current plus Digital:  
12-32 Vdc.  
Isolated Voltage plus Digital:  
14-32 Vdc.  
Non-Isolated Voltage plus Digital:  
8-30 Vdc.

### COMMON

#### Insulation Resistance

> 100 megohms at 50 Vdc at 70°F.

#### Electrical Termination

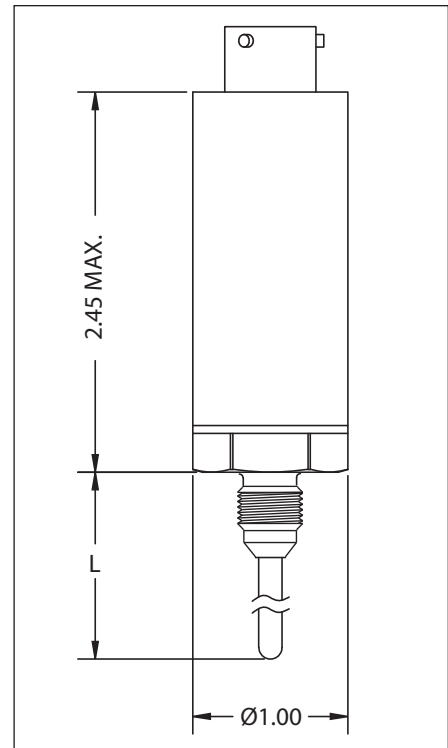
PTIH-10-6P stainless steel connector or equivalent.

*Optional electrical terminations available.*

#### Electrical Protection

- EMI Protected.  
(Optional for Isolated Voltage).
- Surge Protection to 500 Vdc.  
(Optional for Isolated Voltage).
- Reverse polarity protected.
- Short circuit protected.

## Dimensions (inches)



## MODEL IDENTIFICATION

T	2	8	X	X
SERIES	ANALOG OUTPUT			DIGITAL OUTPUT
	0 = Volts			0 = None
	5 = 4-20mA			1 = RS-485
	2-wire Loop			2 = RS-232
	(not available with digital output)			4 = CANbus
	6 = 4-20mA			
	3-wire			
	1 = None			

## Environmental Characteristics

### Electronics Case

Analog: -65°F to +250°F.

Digital: -40°F to +185°F.

### Temperature Probe

-320°F to +500°F.



## Modifications and Warranty

MODIFICATIONS: We realize transducer applications vary greatly and as such our designs are flexible. Choice of pressure port, electrical termination, material compatibility and performance characteristics are a few of the many options available. Specifications on this datasheet represent the standard configuration only. Product and company names listed are trademarks of their respective companies. Specifications subject to change without notice.

WARRANTY: Stellar Technology warrants that its product shall be free from defective workmanship and/or material for a twelve month period from the date of shipment, provided that Stellar Technology's obligation hereunder shall be limited to correcting any defective material FOB our factory. No allowance will be made for any expenses incurred for correcting any defective workmanship and/or material without written consent by Stellar Technology. This warranty is in lieu of all other warranties expressed or implied.

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Due to the nature of technology, changes are inevitable. For latest technical specifications, see our website.

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