

# Series PT170

Pressure and Temperature Transducers



## Description

The Series PT170 is a small, accurate, combination pressure-temperature transducer for measuring dynamic and static pressure-temperatures. Available in absolute, sealed gage, or true gage zero pressure reference and either an RTD or thermocouple for temperature measurement, the unit is entirely welded of stainless steel. Features of design include long term stability, low sensitivity to shock and vibration, wide compensated temperature range, excellent response to transient pressures and infinite resolution.

## Standard Features

- Ranges to 20000 PSI
- Stainless Steel Construction
- Probes from 1" to 4"
- Requires no thermowell
- Operates with fluids or gases
- NIST traceable

## Optional Features

- Probe Length Greater Than 4"
- Alternative pressure ports
- Remote electronics for higher temperature applications
- Alternative electrical terminations
- Alternative materials of construction
- Temperature probe from -320°F to +750°F

**PT170**

# Series PT170 Specifications

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

## Performance

### PRESSURE

#### Static Accuracy

± 0.25% FSO by BFSL.

#### Thermal Zero Shift

< ± 0.010% FSO/°F.

#### Thermal Span Shift

< ± 0.005% FSO/°F.

#### Zero Balance

±1% FSO at 70°F.

#### Full Scale Output

3.0 ± 0.015 mV/V FSO at 70°F.

#### Natural Frequency

3.5 kHz at 200 PSI to 50.0 kHz at 6000 PSI.

#### Acceleration Response

Less than ± 0.005% FS/G.

### TEMPERATURE

#### Temperature Output

Class A RTD 100Ω or 1000Ω per DIN EN 60751 (according to IEC 751).

#### Step Response

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

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

## Mechanical Characteristics

### Standard Ranges

0-50, 75, 100, 150, 200, 250, 300, 500, 750, 1000, 1500, 2000, 2500, 3000, 3500, 4000, 5000, 6000, 10000, 15000, 20000 PSIA / PSIG.

### Proof Pressure

1.5 X FSO pressure.

### Burst Pressure

> 2 X FSO pressure.

### Operating Media

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

### Pressure Fitting

(For ranges 5 psi thru 10,000 psi)

7/16"-20 per AS4395E4 (Standard).

1/4" NPT Male: (No charge Option).

1/4" NPT Female: (No charge Option).

LM9, LM12, LM16 male with probe: (Option).

(For ranges 15,000 psi to 20,000 psi).

LM9, LM12, LM16:

male with probe (Standard).

AE F250-C, 9/16-18 UNF or equivalent:

no probe (Option)

For additional fittings please consult factory.

### Enclosure

Body and pressure cavity of stainless steel, hermetically sealed.

### RTD Probe

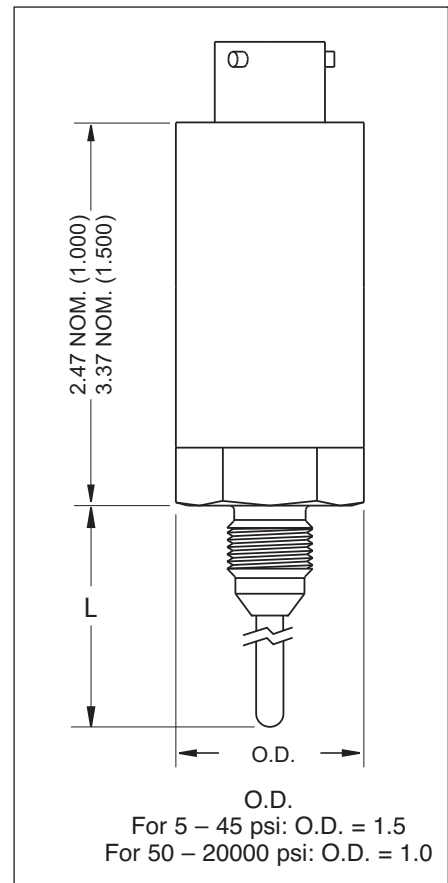
Specify probe length desired:

Dimension "L" (see drawing).

### Weight

Approx. 5 oz.

## Dimensions (inches)



## Electrical Characteristics

### Excitation

10 Vdc recommended, 15 Vdc max.

### Input / Output Resistance

350 ± 3.5 ohms at 70°F.

### Insulation Resistance

> 10K megohms at 50 Vdc at 70°F.

### Electrical Termination

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

Optional electrical terminations available.

## Environmental Characteristics

### Compensated Temperature Range

-65°F to +250°F.

### Operating Temperature Range

-65°F to +300°F.

(-320 to +450°F optional)

### Enclosure

Body and pressure cavity of stainless steel, hermetically sealed.



## 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.

**LORD** ISO 9001/AS9100  
**SENSING**  
Stellar Technology

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

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