

# Series ST350

Aerospace Pressure Transducers



## Description

The Series ST350 pressure transducers are designed to meet the rigorous requirements of the aerospace industry. These pressure sensors combine compact size, rugged construction, and a special high capacity sensing diaphragm designed to give highly accurate dynamic and static pressure measurements from 3,000 psi to 40,000 psi. Additional design features include a wide compensated temperature range, all welded stainless steel construction, long term stability, low sensitivity to shock and vibration, and infinite resolution. Series ST350 aerospace pressure transducers are available in absolute, gage, and sealed pressure references. Each unit is shipped with a 19 point calibration record traceable to NIST as standard.

## Standard Features

- Lightweight/Compact size (1 in. O.D.)
- Pressure Ranges to 40,000 psi
- 3 mV/V Output
- Low Thermal Error
- Wide Compensated Temperature Range
- All Stainless Steel Construction
- Shock and Vibration Resistant
- 19 Point Calibration Record Traceable to NIST

## Optional Features

- Customer Specified Electrical Termination
- Special Calibrations

**ST350**

# Series ST350 Specifications

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

## Performance

### Static Accuracy

Linearity:  $\pm 0.20\%$  FSO.  
Hysteresis:  $\pm 0.20\%$  FSO.  
Repeatability:  $\pm 0.10\%$  FSO.

### Resolution

Infinite

### Thermal Zero Shift

$< \pm 0.005\%$  FSO/ $^{\circ}$ F (typical).

### Thermal Span Shift

$< \pm 0.005\%$  FSO/ $^{\circ}$ F (typical).

### Zero Balance

$\pm 1\%$  FSO at 70 $^{\circ}$ F.

### Full Scale Output

$3.0 \pm 0.015$  mV/V at 70 $^{\circ}$ F.

### Acceleration Response

$< \pm 0.15\%$  FSO/G at 200 PSI to  
 $\pm 0.0015\%$  FS/G at 40,000 PSI.

## Mechanical Characteristics

### Standard Ranges

300, 500, 750, 1000, 1500, 2000, 3000,  
5000, 7500, 10000, 15000, 20000,  
25000, 30000, 40000 PSIA / PSIG / PSIS.

### Proof Pressure

1.5 X range.

### Burst Pressure

2.0 X range.

### Operating Media

Fluids and gases compatible with 17-4  
stainless steel.

(Inconel and other materials optional.)

### Natural Frequency

5.0 kHz at 300 psi  
to 347 kHz at 40,000 psi.

## Mechanical Characteristics

### Pressure Fitting

(For ranges 300 psi thru 10,000 psi)  
7/16"-20 per AS4395E4 / MS33656-4  
(Male) - (Standard).

7/16"-20 per AS5202E4 / MS33649-4  
(Female) - (No charge option).

(For ranges 15,000 psi thru 40,000 psi)  
AE F250-C, 9/16"-18 UNF, or equivalent  
(Standard).

For additional pressure fittings please  
consult factory.

### Enclosure

Body and pressure cavity of stainless  
steel, hermetically sealed.

### Weight

4.5 oz. maximum.

## Electrical Characteristics

### Excitation

10 Vdc recommended, 15 Vdc max.

### Input / Output Resistance

$350 \pm 3.5$  ohms at 70 $^{\circ}$ F.

### Insulation Resistance

$> 10K$  megohms at 50 Vdc at 70 $^{\circ}$ F.

### Electrical Termination

MIL-C-26482 Class

No. 3143H-10-6P.

Optional electrical terminations available.

### Wiring

PIN A	(+) Excitation
PIN B	(+) Signal
PIN C	(-) Signal
PIN D	(-) Excitation
PIN E, F	No Connection Shunt Available

Standard configuration shown.

Options available.

## Environmental Characteristics

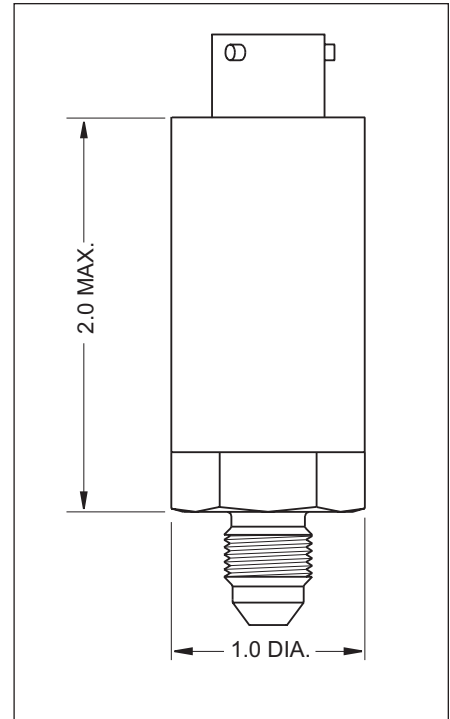
### Compensated Temperature Range

-65 $^{\circ}$ F to +250 $^{\circ}$ F.

### Operating Temperature Range

-100 $^{\circ}$ F to +300 $^{\circ}$ F.

## Dimensions (inches)



CE

0539

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.

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Datasheet P/N: 232012A

237 Commerce Drive • Amherst, NY 14228 • USA

Tel: 716.250.1900 • Fax: 716.250.1909

Email: [info@stellartech.com](mailto:info@stellartech.com)

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